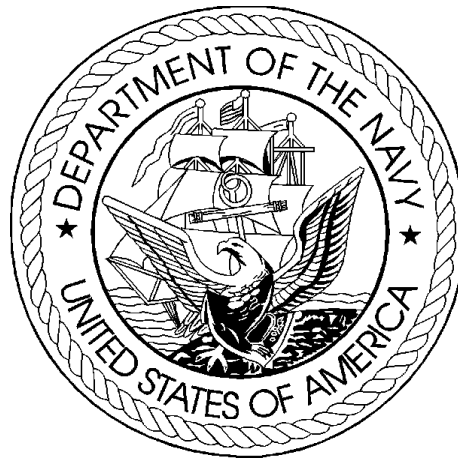


DEPARTMENT OF THE NAVY
FISCAL YEAR (FY) 2006/FY 2007
BUDGET ESTIMATES



JUSTIFICATION OF ESTIMATES
FEBRUARY 2005

RESEARCH, DEVELOPMENT, TEST &
EVALUATION, NAVY
BUDGET ACTIVITY 5

UNCLASSIFIED
DEPARTMENT OF THE NAVY
FY 2006 RDT&E PROGRAM
SUMMARY
(\$ IN THOUSANDS)

FEBRUARY 2005

Summary Recap of Budget Activities -----	FY 2004 -----	FY 2005 -----	FY 2006 -----
System Development & Demonstration	6,131,943	7,647,380	8,877,891
Total Research, Development, Test & Eval, Navy	6,131,943	7,647,380	8,877,891
 Summary Recap of FYDP Programs -----			
Guard and Reserve Forces	3,596		
Research and Development	6,128,347	7,647,380	8,877,891
Total Research, Development, Test & Eval, Navy	6,131,943	7,647,380	8,877,891

UNCLASSIFIED

DEPARTMENT OF THE NAVY
FY 2006 RDT&E PROGRAM

EXHIBIT R-1

APPROPRIATION: 1319N Research, Development, Test & Eval, Navy

Date: FEBRUARY 2005

Line No --	Program Element Number -----	Item ----	Act ---	Thousands of Dollars			S E C -
				FY 2004 -----	FY 2005 -----	FY 2006 -----	
84	0604212N	Other Helo Development	05	79,058	185,756	81,112	U
85	0604214N	AV-8B Aircraft - Eng Dev	05	10,340	13,140	15,556	U
86	0604215N	Standards Development	05	45,346	63,105	84,308	U
87	0604216N	Multi-Mission Helicopter Upgrade Development	05	81,906	81,321	48,144	U
88	0604218N	Air/Ocean Equipment Engineering	05	2,851	4,461	4,558	U
89	0604221N	P-3 Modernization Program	05	14,257	13,038	7,401	U
90	0604230N	Warfare Support System	05	1,927	5,152	2,275	U
91	0604231N	Tactical Command System	05	65,003	59,499	51,177	U
92	0604234N	Advanced Hawkeye	05	328,121	590,592	629,682	U
93	0604245N	H-1 Upgrades	05	98,412	173,046	42,012	U
94	0604261N	Acoustic Search Sensors	05	16,706	14,590	29,522	U
95	0604262N	V-22A	05	357,261	263,541	206,376	U
96	0604264N	Air Crew Systems Development	05	16,922	21,347	10,902	U
97	0604269N	EA-18	05		353,679	409,097	U
98	0604270N	Electronic Warfare Development	05	270,264	49,655	42,667	U
99	0604273N	VHXX Executive Helo Development	05	169,321	550,853	935,932	U
100	0604280N	Joint Tactical Radio System - Navy (JTRS-Navy)	05	66,613	79,454	250,766	U
101	0604300N	SC-21 Total Ship System Engineering	05	1,015,025	1,163,933	1,114,791	U
102	0604307N	Surface Combatant Combat System Engineering	05	215,584	157,159	216,313	U
103	0604311N	LPD-17 Class Systems Integration	05	8,621	8,893	11,443	U
104	0604312N	Tri-Service Standoff Attack Missile	05	19,433	27,041		U

UNCLASSIFIED

DEPARTMENT OF THE NAVY
FY 2006 RDT&E PROGRAM

EXHIBIT R-1

APPROPRIATION: 1319N Research, Development, Test & Eval, Navy

Date: FEBRUARY 2005

Line No --	Program Element Number -----	Item ----	Act ---	Thousands of Dollars			S E C -
				FY 2004 -----	FY 2005 -----	FY 2006 -----	
105	0604329N	Small Diameter Bomb (SDB)	05		9,843	9,965	U
106	0604366N	Standard Missile Improvements	05	73,654	110,775	145,634	U
107	0604373N	Airborne MCM	05	88,918	51,450	54,659	U
108	0604503N	SSN-688 and Trident Modernization	05	82,173	95,082	95,499	U
109	0604504N	Air Control	05	10,100	16,432	10,151	U
110	0604507N	Enhanced Modular Signal Processor	05	991	1,063	1,079	U
111	0604512N	Shipboard Aviation Systems	05	23,479	29,312	33,029	U
112	0604518N	Combat Information Center Conversion	05	13,259	10,618	6,908	U
113	0604558N	New Design SSN	05	141,459	171,205	155,807	U
114	0604561N	SSN-21 Developments	05	23,596	2,972	2,928	U
115	0604562N	Submarine Tactical Warfare System	05	31,456	48,456	40,690	U
116	0604567N	Ship Contract Design/ Live Fire T&E	05	114,654	118,519	55,672	U
117	0604574N	Navy Tactical Computer Resources	05	12,235	8,298	2,220	U
118	0604601N	Mine Development	05	1,470	6,052	15,392	U
119	0604603N	Unguided Conventional Air-Launched Weapons	05	12,015			U
120	0604610N	Lightweight Torpedo Development	05	12,811	11,324	31,826	U
121	0604618N	Joint Direct Attack Munition	05	1,429			U
122	0604654N	Joint Service Explosive Ordnance Development	05	12,744	8,979	8,880	U
123	0604703N	Personnel, Training, Simulation, and Human Factors	05	1,857	2,958	3,097	U
124	0604721N	Battle Group Passive Horizon Extension System	05	16,727	29,966	18,456	U

UNCLASSIFIED

DEPARTMENT OF THE NAVY
FY 2006 RDT&E PROGRAM

EXHIBIT R-1

APPROPRIATION: 1319N Research, Development, Test & Eval, Navy

Date: FEBRUARY 2005

Line No --	Program Element Number -----	Item ----	Act ---	Thousands of Dollars			S E C -
				FY 2004 -----	FY 2005 -----	FY 2006 -----	
125	0604727N	Joint Standoff Weapon Systems	05	4,910	10,874	13,517	U
126	0604755N	Ship Self Defense (Detect & Control)	05	51,774	66,059	45,931	U
127	0604756N	Ship Self Defense (Engage: Hard Kill)	05	23,067	50,678	46,026	U
128	0604757N	Ship Self Defense (Engage: Soft Kill/EW)	05	48,089	41,988	24,012	U
129	0604761N	Intelligence Engineering	05			5,002	U
130	0604771N	Medical Development	05	42,010	50,791	7,202	U
131	0604777N	Navigation/ID System	05	42,806	27,785	52,717	U
132	0604784N	Distributed Surveillance System	05	32,876	17,416	54,256	U
133	0604800N	Joint Strike Fighter (JSF)	05	2,081,930	2,145,239	2,393,013	U
134	0604910N	Smart Card	05	532	677	715	U
135	0605013M	Information Technology Development	05	8,725	9,197	19,150	U
136	0605013N	Information Technology Development	05	92,499	123,868	60,859	U
137	0605014N	Defense Integrated Military Human Resources System (DIMHRS) - RDT&E	05	74,304			U
138	0605172N	Multinational Information Sharing (MNIS)	05			33,557	U
139	0605212N	CH-53X RDTE	05			271,941	U
140	0605500N	Multi-mission Maritime Aircraft (MMA)	05	66,827	490,249	964,067	U
141	0508713N	Navy Standard Integrated Personnel System (NSIPS)	05	3,596			U
		System Development & Demonstration		6,131,943	7,647,380	8,877,891	
		Total Research, Development, Test & Eval, Navy		6,131,943	7,647,380	8,877,891	

Fiscal Year 2006 Budget Estimates
Budget Appendix Extract Language

**RESEARCH, DEVELOPMENT, TEST & EVALUATION, NAVY
(RDTEN)**

For expenses necessary for basic and applied scientific research, development, test and evaluation, including maintenance, rehabilitation, lease, and operation of facilities and equipment, [\$17,043,812,000] *\$18,037,991,000*, to remain available for obligation until September 30, [2006] *2007: Provided*, That funds appropriated in this paragraph which are available for the V-22 may be used to meet unique operational requirements of the Special Operations Forces: *Provided further*, That funds appropriated in this paragraph shall be available for the Cobra Judy program. (*10 U.S.C. 174, 2352– 54, 7522; Department of Defense Appropriations Act, 2005.*)

Program: *Communications
Infrastructure*

Agency: *Department of Defense--Military*

Bureau: *Department of Defense--Military*

Rating: *Results Not Demonstrated*

Program Type: *Capital Assets and Service Acquisition*

Last Assessed: *2 years ago*

<i>Key Performance Measures from Latest PART</i>	<i>Year</i>	<i>Target</i>	<i>Actual</i>
Annual Measure: Percent of time that the Non-Secure Internet Protocol Router Network (NIPRNET) access circuit is available. NIPRNET is the unclassified IT system.	2000	> 98.5%	99.63%
	2001	> 98.5%	99.50%
	2002	> 98.5%	99.5%
	2003	> 98.5%	99.5%
Annual Measure: Number of bases upgraded by the Army Installation Information Infrastructure Modernization Program (I3MP)	2001	5	5
	2002	8	8
	2003	5	5

Update on Follow-up Actions:

<i>Recommended Follow-up Actions</i>	<i>Status</i>
DoD will develop common metrics to assess program performance across the department.	Action taken, but not completed

Program Funding Level (in millions of dollars)

<u>2004 Actual</u>	<u>2005 Estimate</u>	<u>2006 Estimate</u>
3,625	4,244	4,021

CLASSIFICATION:								
EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA5				R-1 ITEM NOMENCLATURE NSIPS Dev/Mod 0508713N				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	3.596	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Commander, Naval Reserve Force 62908	3.596	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Quantity of RDT&E Articles								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Navy Standard Integrated Personnel System (NSIPS) is an Automated information System (AIS) designed to collect the personnel and pay data for all navy members. NSIPS will be Defense Information Infrastructure Common Operating Environment (DII COE) and year 2000 compliant. It will incorporate the functionality of many Navy Systems into an integrated Navy personnel and pay system for active duty, reserve, and retired personnel. NSIPS will interface with Defense Joint Military Pay System (DJMS) for pay functionality.</p> <p>NSIPS will be focusing on Web enablement and the emergence as the single authoritative personnel database for the Navy. This will support migration to the Defense Integrated Military Human Resources System (DIMHRS).</p> <p>(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under SYSTEMS DEVELOPMENT AND DEMONSTRATION because it encompasses development and demonstration of new end-items prior to production approval decision.</p>								

R-1 SHOPPING LIST - Item No. 141

CLASSIFICATION:								
EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME NSIPS Dev/Mod 0508713N			PROJECT NUMBER AND NAME COMNAVRESFOR 62908			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	3.596	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>Navy Standard Integrated Personnel System (NSIPS) is an automated information system designed to collect the personnel and pay data for all Navy members. It incorporates the personnel and pay functionality of many Navy systems into an integrated Navy personnel and pay system for active duty and reserve personnel. NSIPS will interface with DJMS for pay functionality.</p> <p>Prior to NSIPS, the Navy had several personnel and pay systems supporting various groups, located in assorted geographic areas, and based on different technologies. Among these systems are the following legacy systems that have been replaced by NSIPS: Source Data System (SDS); Diary Message Reporting System (DMRS); Reserve Standard Training, Administration, and Readiness Support (RSTARS); and; Uniform Microcomputer Disbursing System (UMIDS).</p> <p>NSIPS improves transaction processing, providing a faster, more accurate and easier to use system. In doing so, the system will replace the four legacy systems and reduce the costs associated with system maintenance and hardware upgrades. The NSIPS data elements are being continually submitted to Office of the Secretary of Defense for standardization, allowing for more precise and accurate reporting of personnel and pay data. NSIPS will eliminate problems encountered during the mobilization or change in status of members. NSIPS will also provide the flexibility found in modern systems allowing the addition of functions as the need arises. It will permit interoperability with other Services' personnel and pay systems as well as allowing the user to create ad hoc reports for specific requirements. In summary, NSIPS will provide the Navy with a comprehensive and reliable personnel and pay management system that meets the present and future needs of the Navy.</p> <p>No new technology has been developed specifically for NSIPS. NSIPS will use Commercial-off-the-Shelf (COTS), Human Resources software as the foundation for the software development effort. NSIPS will use COTS hardware and existing Navy and DoD data processing and communications infrastructure to the maximum extent possible. In particular, NSIPS will integrate its design requirements with the IT-21 and Navy Marine Corps Intranet initiatives to fully exploit these initiatives and their infrastructures. Sites without the required infrastructure will have resources provided by either the NSIPS Program, the host activity, or another DoD/DON agency.</p> <p>NSIPS recieved its Full Deployment Decision Review and achieve IOC in June 2004. It is fully developed and Release 1.1 (Web Enablement and Electronic Service Record) versions are being deployed. Current projection for FOC is March 2006.</p>								

R-1 SHOPPING LIST - Item No 141

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME NSIPS Dev/Mod 0508713N	PROJECT NUMBER AND NAME COMNAVRESFOR 62908		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	3.596	0.000	0.000	0.000
RDT&E Articles Quantity				
<p>The Navy Standard Integrated Personnel System (NSIPS) is an Automated information System (AIS) designed to collect the personnel and pay data for all navy members. NSIPS will be Defense Information Infrastructure Common Operating Environment (DII COE) and year 2000 compliant. It will incorporate the functionality of many Navy Systems into an integrated Navy personnel and pay system for active duty, reserve, and retired personnel. NSIPS will interface with Defense Joint Military Pay System (DJMS) for pay functionality.</p> <p>FY 2004 Accomplishments: Final development of Release 1.0 and Enhancement development (Release 1.1 -Web) along with preplanned product improvements.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				

R-1 SHOPPING LIST - Item No. 141

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																													
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME NSIPS Dev/Mod 0508713N	PROJECT NUMBER AND NAME COMNAVRESFOR 62908																																																														
<p>(U) C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 10%; text-align: right;">FY 2004</th> <th style="width: 10%; text-align: right;">FY 2005</th> <th style="width: 10%; text-align: right;">FY 2006</th> <th style="width: 10%; text-align: right;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>(U) Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Previous President's Budget:</td> <td style="text-align: right;">4.653</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>Current BES/President's Budget</td> <td style="text-align: right;">3.596</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-1.057</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments * Include Issue No. & Cong. Language Sec. if applicable</td> </tr> <tr> <td>Sec. 8094 Management Improvements</td> <td style="text-align: right;">-0.012</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Sec. 8029 FFRDC Reduction</td> <td style="text-align: right;">-0.001</td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY04 SBIR (09-Apr-04)</td> <td style="text-align: right;">-0.125</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Sec. 8126 Efficiencies/Rev Econ Assumptions</td> <td style="text-align: right;">-0.040</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Reprogrammings to DIMHRS Proj 3303</td> <td style="text-align: right;">-0.879</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">-1.057</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> </tr> </tbody> </table> <p style="margin-top: 20px;">(U) Schedule: N/A</p> <p style="margin-top: 20px;">(U) Technical: N/A</p>						FY 2004	FY 2005	FY 2006	FY 2007	(U) Funding:					Previous President's Budget:	4.653	0.000	0.000	0.000	Current BES/President's Budget	3.596	0.000	0.000	0.000	Total Adjustments	-1.057	0.000	0.000	0.000	Summary of Adjustments * Include Issue No. & Cong. Language Sec. if applicable					Sec. 8094 Management Improvements	-0.012				Sec. 8029 FFRDC Reduction	-0.001				FY04 SBIR (09-Apr-04)	-0.125				Sec. 8126 Efficiencies/Rev Econ Assumptions	-0.040				Reprogrammings to DIMHRS Proj 3303	-0.879				Subtotal	-1.057	0.000	0.000	0.000
	FY 2004	FY 2005	FY 2006	FY 2007																																																												
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Subtotal	-1.057	0.000	0.000	0.000																																																												

R-1 SHOPPING LIST - Item No. 141

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME NSIPS Dev/Mod 0508713N			PROJECT NUMBER AND NAME COMNAVRESFOR 62908			

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
BLI 3306 NSIPS	0.357	0.287	0	0	0	0	0	0	0	

(U) E. ACQUISITION STRATEGY:

The NSIPS acquisition strategy is to utilize existing ID/IQ contracts that provide products that comply with the Defense Information Infrastructure Common Operating Environment (DII COE) and Global Command Support System (GCSS) initiatives and offer best value to the government. Multiple vehicles may be used to access required support and COTS hardware/software. Other NSIPS contracts include development, test, and management support services. The scope of work is described in general terms and obligates the contractor to devote a specified level of effort for a stated time period. Task renewal for further periods of performance may involve new cost and fee arrangements. To reduce administration of tasks in acquisition Phase II, the PMO executing Basic Purchasing Agreements to the General Services Administration (GSA) Federal Supply Schedules (FSS) for contractors used to support other efforts and requirements for training, testing, and PMO support not performed by the prime software development contractor. The NSIPS program office, using a primary software development contractor (Lockheed Martin) is executing software development through a cost plus fixed fee type contract. Program Office support is obtained using existing GSA contracts and contracts awarded through SPAWARSSYSCOM. Hardware is obtained using existing SPAWARSSYSCOM Indefinite Delivery/Indefinite Quantity (ID/IQ) contracts.

(U) F. Major Performers:

Major Contractors: Lockheed-Martin (RDT&EN). Current contract for Software Development was awarded 10-01-03.

R-1 SHOPPING LIST - Item No. 141

CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 1)									DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			NSIPS Dev/Mod 0508713N			COMNAVRESFOR 62908						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	0.000
Ancillary Hardware Development											0.000	0.000
Systems Engineering											0.000	0.000
Licenses											0.000	0.000
Tooling											0.000	0.000
GFE											0.000	0.000
Award Fees											0.000	0.000
Subtotal Product Development			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
Development Support											0.000	0.000
Software Development	CPFF	Contractor, ITC New Orleans	3.596	0.000	N/A	0.000		0.000		0.000	3.596	0.000
Training Development											0.000	0.000
Integrated Logistics Support											0.000	0.000
Configuration Management											0.000	0.000
Technical Data											0.000	0.000
GFE											0.000	0.000
Subtotal Support			3.596	0.000		0.000		0.000		0.000	3.596	0.000
Remarks:												

R-1 SHOPPING LIST - Item No .141

CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5				PROGRAM ELEMENT NSIPS Dev/Mod 0508713N				PROJECT NUMBER AND NAME COMNAVRESFOR 62908				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	0.000
Operational Test & Evaluation											0.000	0.000
Live Fire Test & Evaluation											0.000	0.000
Test Assets											0.000	0.000
Tooling											0.000	0.000
GFE											0.000	0.000
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
Contractor Engineering Support											0.000	0.000
Government Engineering Support											0.000	0.000
Program Management Support											0.000	0.000
Travel											0.000	0.000
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
Total Cost			3.596	0.000		0.000		0.000		0.000	3.596	0.000
Remarks:												

R-1 SHOPPING LIST - Item No. 141

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE: February 2005								
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5										PROGRAM ELEMENT NUMBER AND NAME NSIPS Dev/Mod 0508713N										PROJECT NUMBER AND NAME COMNAVRESFOR 62908												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones																																
Prototype Phase																																
System Development (e.g., Radar System dev.)																																
Equipment Delivery (e.g., EDM Radar Delivery)																																
Software Release 1.0 Delivery Release 1.1 Delivery				△ △																												
Test & Evaluation Milestones																																
Development Test																																
Operational Test																																
Production Milestones																																
LRIP I																																
LRIP II																																
FRP (FDDR)				△																												
Deliveries																																

R-1 SHOPPING LIST - Item No. 141

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT& BA-5	PROGRAM ELEMENT NSIPS Dev/Mod 0508713N				PROJECT NUMBER AND NAME COMNAVRESFOR 62908			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Prototype Phase								
System Design Review (SDR)								
Milestone II (MSII)								
Contract Preparation								
Software Specification Review (SSR)								
Preliminary Design Review (PDR)								
System Development								
Critical Design Review (CDR)								
Quality Design and Build								
Test Readiness Review (TRR)								
Developmental Testing (DT-IIA)								
Eng Dev Model (EDM) Radar Delivery - Lab								
Software Delivery 1XXSW								
Preproduction Readiness Review (PRR)								
EDM Radar Delivery - Flt Related								
Milestone C (MS C)	3Q							
Operational Testing (OT-IIA)								
Start Low-Rate Initial Production I (LRIP I)								
Software Delivery 2XXSW								
Developmental Testing (DT-IIB1)								
Developmental Testing (DT-IIB2)								
Start Low-Rate Initial Production II								
Operational Testing (OT-IIB)								
Developmental Testing (DT-IIC)								
Functional Configuration Audit (FCA)								
Low-Rate Initial Production I Delivery								
Technical Evaluation (TECHEVAL)								
Physical Configuration Audit								
Operational Evaluation (OT-IIC) (OPEVAL)								
Low-Rate Initail Production II Delivery								
IOC								
Full Rate Production (FRP) Decision	3Q							
Full Rate Production Start								
First Deployment	3Q							
FOC								

R-1 SHOPPING LIST - Item No. 141

UNCLASSIFIED

Classification:

Exhibit R-5, Termination Liability Funding for Major Defense Acquisition Programs, RDT&E Funding (\$000)							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NSIPS Dev/Mod 0508713N				PROJECT NUMBER AND NAME COMNAVRESFOR 62908		
Program Title	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY2010	FY2011
NSIPS	0	0	0	0	0	0	0	0

R-1 SHOPPING LIST - ITEM No. 141

UNCLASSIFIED

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2, RDT&E Budget Item Justification							DATE:	
							February 2005	
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE			
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					0604212N ASW & OTHER HELO DEVELOPMENT			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	79.058	185.756	81.112	82.813	44.653	25.331	7.821	8.197
1109 CH/MH-53	2.788	2.381	2.466	2.531	2.611	2.674	2.738	2.795
2415 MH-60S Development	49.175	80.127	78.646	80.282	42.042	22.657	5.083	5.402
3058 VHXX Replacement *	20.392	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3059 CH-53X Development **	4.781	102.326	0.000	0.000	0.000	0.000	0.000	0.000
9055 Laser Aim Scoring System (LASS)		0.922						
9366 Advanced Cable	0.961							
9367 Advanced Helicopter	0.961							
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
1109 - The H-53D/E helicopter is the premier heavy lift helicopter for the Marine Corps and the only operational airborne mine sweeping platform for the Navy. From FY2004 to FY2011, H-53D/E efforts will continue to develop and qualify components, prior to production approval decisions, in order to replace obsolete system components. Emphasis will be placed on incorporating supportability improvement modifications that will sustain the H-53D/E aircraft through the year 2025 until the transition to the H-53X is complete. These efforts combined, will significantly improve the readiness of the H-53D/E fleet while reducing long term operational and supportability costs. H-53D/E RDT&E efforts will focus on trade studies and risk reduction measures to identify candidate survivability, avionics, cargo handling, cockpit and other airframe specific improvements to extend the service life to 2025. Modeling and simulation will be used to the maximum practical extent throughout this effort. Manned Flight Simulator (MFS) will be utilized to develop, install and test interim modifications to existing H-53D/E legacy avionics, while maintaining the original basic system footprint and functionality. As a part of this effort, a complete electromagnetic vulnerability (EMV) assessment will be required for the affected and/or modified systems.								
*Details reported under Program Element 0604273N. ** Details reported under new Program Element 0605212N.								

R-1 SHOPPING LIST - Item No.

84

UNCLASSIFIED

Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 1 of 26)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5	R-1 ITEM NOMENCLATURE 0604212N ASW & OTHER HELO DEVELOPMENT	
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: (Cont'd)</p> <p>2415 - The Helicopter Combat Support (HC) mission is to maintain forward deployed fleet sustainability through rapid airborne delivery of materials and personnel and to support amphibious operations through search and rescue coverage. The primary roles of the aircraft are to conduct vertical replenishment (VERTREP), day/night ship-to-ship, ship-to-shore, and shore-to-ship external transfer of cargo; internal transport of passengers, mail and cargo, vertical on board delivery (VOD); airhead operations, and day/night search and rescue (SAR) , Organic Airborne Mine Countermeasures (OAMCM) and Armed Helo. The MH-60S ORD was modified in May 2000 to add Organic Airborne Mine Countermeasures (OAMCM) as a primary mission for the MH-60S. The AMCM mission will provide Carrier Strike Groups (CSGs)^{Note 1} and Expeditionary Strike Groups (ESGs)^{Note 1} with an OAMCM capability. The Armed Helo will provide Combat Search and Rescue (CSAR), Surface Warfare (SUW) and Maritime Interdiction Operations (MIO)^{Note 2} to include Link 16. The aircraft secondary roles include torpedo and drone recovery, noncombatant evacuation operations (NEO), Sea Air Land (SEAL) and Explosive Ordnance Disposal (EOD) support.</p> <p>*The FY 2004 budget reflects a \$2.0M Congressional add for Advance Cable Design which has been reduced by \$0.022million for Congressional Rescission, \$0.054 SBIR, \$0.002 for non-pay inflation savings and will be executed under H9366 and H9367.</p> <p>Note 1: All missions stayed the same, the names were changed through the approval of Helicopter CONOPS as follows: Carrier Battle Groups (CVBGs) to Carrier Strike Groups (CSGs); and Amphibious Readiness Groups (ARGs) to Expeditionary Strike Groups (ESGs).</p> <p>Note 2: The interim requirement letter (N78, dtd 12 Jun 03) changed the Force Protection (FP) to Maritime Interdiction Operations (MIO).</p> <p>3058 - Marine Helicopter Squadron One (HMX-1) is required to provide safe and timely transportation for the President and Vice President of the United States, heads of state and others as directed by the White House Military Office (WHMO). The global nature of these commitments requires HMX-1 aircraft to deploy worldwide and operate in varying environmental and climatic conditions without mission degradation. Currently two Type, Model, Series (TMS) aircraft are used by HMX-1 for the Presidential support mission – the VH-3D and the VH-60N. Numerous modifications and improvements have been incorporated over the past several years to both aircraft commensurate with emerging technologies and White House requirements. In order for the VXX to be available to assume the Presidential vertical lift mission by 2008, three test article aircraft, five pilot production aircraft, system design and development efforts, maintenance trainers, and associated logistics must be initiated by 2005. In addition, 3 Low-Rate Initial Production aircraft will be procured starting in FY2008. These aircraft will provide production representative articles to complete operational testing. The VHXX program provides the replacement for the VH-3D Presidential helicopter. The following areas need to be explored: Nuclear Effects, E3 /TEMPEST certification requirements, Survivability (Vulnerability/Susceptibility), Facilities upgrade/modifications- Source Selection, Environmental Impact, Security, Cost Estimation, Requirements Analysis, Functional Analysis and Allocation, Risk Management, Crew System/Human Systems Integration (HSI), and Logistics Support Analysis. Contractor efforts are expected to include System Design and Development work, test article aircraft, and pilot production aircraft.</p>		

R-1 SHOPPING LIST - Item No. 84

UNCLASSIFIED

Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 2 of 26)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5	R-1 ITEM NOMENCLATURE 0604212N ASW & OTHER HELO DEVELOPMENT	
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: (Cont'd)</p> <p>3059 - The CH-53 is the only marinized heavy lift helicopter in the world, and the CH-53E is the Marine Corps only heavy-lift helicopter. An improved CH-53E is needed to support the Marine Air-Ground Task Force heavy-lift requirements in the 21st century joint environment. The CH-53E mission is the conduct of expeditionary heavy-lift assault transport of armored vehicles, equipment and personnel to support distributed operations deep inland from sea-based center of operations. The CH-53E "Super Stallion" was introduced into operations in 1980 as an upgrade version of the CH-53D. The CH-53E has developed performance degradation, fatigue life, interoperability, maintenance supportability, and other operational concerns. The CH-53X, an upgraded variant of the CH-53E, will provide improvements in range and payload performance, cargo handling and turn-around times, reliability and maintainability, interoperability, and survivability. The CH-53X program is required to provide full system capability, including shipboard compatibilities, at Initial Operational Capability (IOC), in Fiscal Year (FY) 2015. The CH-53X will replace the CH-53E, with Full Operational Capability (FOC) achieved by FY 2021.</p> <p>9055 - The Laser Aim Scoring System (LASS) provides real-time, quantitative feedback on critical aspects of laser guided weapon employment not currently available from existing Navy laser scoring systems. This feedback has been proven to significantly improve flight crew weapon delivery capabilities during nearly a decade of use by the U.S. Army. The system consists of three major components: A Base Station, Target Kit and Aircraft Flight Data Unit. LASS will be adapted to existing Navy seaborne target to support Navy H-60 armed helicopter training and readiness events requiring laser scoring capability.</p>		

R-1 SHOPPING LIST - Item No. 84

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 3 of 26)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604212N ASW & OTHER HELO DEVELOPMENT			PROJECT NUMBER AND NAME 1109 CH/MH-53			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	2.788	2.381	2.466	2.531	2.611	2.674	2.738	2.795
RDT&E Articles Qty								
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The H-53D/E helicopter is the premier heavy lift helicopter for the Marine Corps and the only operational airborne mine sweeping platform for the Navy. From FY2004 to FY2011, H-53D/E efforts will continue to develop and qualify components, prior to production approval decisions, in order to replace obsolete system components. Emphasis will be placed on incorporating supportability improvement modifications that will sustain the H-53D/E aircraft through the year 2025 until the transition to the H-53X is complete. These efforts combined, will significantly improve the readiness of the H-53D/E fleet while reducing long term operational and supportability costs. H-53D/E RDT&E efforts will focus on trade studies and risk reduction measures to identify candidate survivability, avionics, cargo handling, cockpit and other airframe specific improvements to extend the service life to 2025. Modeling and simulation will be used to the maximum practical extent throughout this effort. Manned Flight Simulator (MFS) will be utilized to develop, install and test interim modifications to existing H-53D/E legacy avionics, while maintaining the original basic system footprint and functionality. As a part of this effort, a complete electromagnetic vulnerability (EMV) assessment will be required for the affected and/or modified systems.</p>								

R-1 SHOPPING LIST - Item No. 84

UNCLASSIFIED

Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 4 of 26)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604212N ASW & OTHER HELO DEVELOPMENT	PROJECT NUMBER AND NAME 1109 CH/MH-53																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>H-53 Avionics</td><td>0.723</td><td>0.414</td><td>0.357</td><td>0.339</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">Trade studies, risk reduction, design, development, model, integration and test activities for cockpit and avionics improvements for the H-53 avionics systems and associated subsystems. Integrate software applique for cockpit and avionics improvements, to include the development of new sensors and the impact in flight control computers. Conduct Business Case Analyses to determine impact of high Operation and Support (O&S) cost drivers and address alternatives for obsolescence issues.</div>						FY 04	FY 05	FY 06	FY 07	H-53 Avionics	0.723	0.414	0.357	0.339	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
H-53 Avionics	0.723	0.414	0.357	0.339															
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	FY 04	FY 05	FY 06	FY 07															
H-53 Survivability	0.730	0.367	0.168	0.171															
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	FY 04	FY 05	FY 06	FY 07															
H-53 Propulsion	0.896	1.108	1.254	1.276															
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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																														
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604212N ASW & OTHER HELO DEVELOPMENT	PROJECT NUMBER AND NAME 1109 CH/MH-53																																															
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RDT&E Articles Quantity																																																	

R-1 SHOPPING LIST - Item No. 84

UNCLASSIFIED

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																							
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604212N ASW & OTHER HELO DEVELOPMENT	PROJECT NUMBER AND NAME 1109 CH/MH-53																																																																								
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;">Funding:</th> <th style="text-align: right; width: 15%;">FY 2004</th> <th style="text-align: right; width: 15%;">FY 2005</th> <th style="text-align: right; width: 15%;">FY 2006</th> <th style="text-align: right; width: 15%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>Previous President's Budget:</td> <td style="text-align: right;">2.768</td> <td style="text-align: right;">2.421</td> <td style="text-align: right;">2.454</td> <td style="text-align: right;">2.495</td> </tr> <tr> <td>Current BES/President's Budget</td> <td style="text-align: right;">2.788</td> <td style="text-align: right;">2.381</td> <td style="text-align: right;">2.466</td> <td style="text-align: right;">2.531</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">0.020</td> <td style="text-align: right; border-top: 1px solid black;">-0.040</td> <td style="text-align: right; border-top: 1px solid black;">0.012</td> <td style="text-align: right; border-top: 1px solid black;">0.036</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional program reductions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional undistributed reductions</td> <td></td> <td style="text-align: right;">-0.036</td> <td></td> <td></td> </tr> <tr> <td> Congressional rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> SBIR/STTR Transfer</td> <td style="text-align: right;">-0.058</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Other Adjustments</td> <td></td> <td style="text-align: right;">-0.004</td> <td style="text-align: right;">-0.081</td> <td style="text-align: right;">-0.010</td> </tr> <tr> <td> Economic Assumptions</td> <td></td> <td></td> <td style="text-align: right;">0.093</td> <td style="text-align: right;">0.046</td> </tr> <tr> <td> Reprogrammings</td> <td style="text-align: right;">0.078</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional increases</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">0.020</td> <td style="text-align: right; border-top: 1px solid black;">-0.040</td> <td style="text-align: right; border-top: 1px solid black;">0.012</td> <td style="text-align: right; border-top: 1px solid black;">0.036</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule:</p> <p style="margin-left: 40px;">Due to efforts related to the Global War on Terrorism, Aircraft Survivability and the Armor Threat Assessment continue into FY04 and FY05.</p> <p style="margin-top: 40px;">Technical:</p> <p style="margin-left: 40px;">Not Applicable</p>					Funding:	FY 2004	FY 2005	FY 2006	FY 2007	Previous President's Budget:	2.768	2.421	2.454	2.495	Current BES/President's Budget	2.788	2.381	2.466	2.531	Total Adjustments	0.020	-0.040	0.012	0.036	Summary of Adjustments					Congressional program reductions					Congressional undistributed reductions		-0.036			Congressional rescissions					SBIR/STTR Transfer	-0.058				Other Adjustments		-0.004	-0.081	-0.010	Economic Assumptions			0.093	0.046	Reprogrammings	0.078				Congressional increases					Subtotal	0.020	-0.040	0.012	0.036
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R-1 SHOPPING LIST - Item No. 84

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604212N ASW & OTHER HELO DEVELOPMENT			PROJECT NUMBER AND NAME 1109 CH/MH-53					
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
N/A										
E. ACQUISITION STRATEGY:										
This is a non-ACAT program with no specific acquisition strategies.										

R-1 SHOPPING LIST - Item No. 84

UNCLASSIFIED

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME							
RDT&E, N / BA-5			0604212N ASW & OTHER HELO DEVELOPMENT			1109 CH/MH-53							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Primary Hardware Development	Various	Various	1.097			0.233	Various	0.228	Various	Continuing	Continuing		
Ancillary Hardware Development	Various	Various	1.284			0.105	Various	0.067	Various	Continuing	Continuing		
Training Development	Various	NAWCAD Pax River, MD	0.311										
Aircraft Integration													
Ship Suitability													
Systems Engineering	WX	NAWCAD Pax River, MD		0.713	Various	0.498	Various	0.548	Various	Continuing	Continuing		
Licenses													
Tooling													
GFE													
Award Fees													
Subtotal Product Development			2.692	0.713		0.836		0.843		Continuing	Continuing		
Remarks:													
Development Support	Various	NAWCAD Pax River, MD	0.406								0.406		
Software Development	Various	Various	0.327			0.131	Various	0.172	Various	Continuing	Continuing		
Integrated Logistics Support											0.000		
Configuration Management											0.000		
Technical Data	Various	Various	0.194								0.194		
Studies & Analyses	Various	Various	2.754	0.362	Various	0.360	Various	0.337	Various	Continuing	Continuing		
GFE	Various	NAWCAD Pax River, MD	0.125								0.125		
Award Fees													
Subtotal Support			3.806	0.362		0.491		0.509		Continuing	Continuing		
Remarks:													

R-1 SHOPPING LIST - Item No. 84

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 9 of 26)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-5			PROGRAM ELEMENT 0604212N ASW & OTHER HELO DEVELOPMENT			PROJECT NUMBER AND NAME 1109 CH/MH-53						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various	1.635	0.854	Various	0.601	Various	0.623	Various	Continuing	Continuing	
Operational Test & Evaluation	WX	COMOPTEVFOR	0.130								0.130	
Live Fire Test & Evaluation											0.000	
Test Assets												
Tooling												
GFE												
Award Fees												
Subtotal T&E			1.765	0.854		0.601		0.623		Continuing	Continuing	
Remarks:												
Contractor Engineering Support												
Government Engineering Support	Various	NAWCAD Pax River, MD	0.180	0.400	Various	0.129	Various	0.141	Various	Continuing	Continuing	
Program Management Support	Various	Various	0.380			0.312	Various	0.317	Various	Continuing	Continuing	
Travel	WX	NAWCAD Pax River, MD	0.706	0.052	11/04	0.097	Various	0.098	Various	Continuing	Continuing	
Transportation												
SBIR Assessment												
Subtotal Management			1.266	0.452		0.538		0.556		Continuing	Continuing	
Remarks:												
Total Cost			9.529	2.381		2.466		2.531		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 84

UNCLASSIFIED

Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 10 of 26)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-5									0604212N ASW & OTHER HELO DEVELOPMENT												1109 CH/MH-53											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Program Milestones																																
Engineering Milestones																																
External Cargo Handling System Design																																
Aircraft Survivability Assmt																																
Armor Threat Assessment & Selection Test																																
Cockpit & A/C System Assessment																																
Other A/C Cockpit Integration Cadidates																																
Design Armor Package																																
Cockpit Upgrade Architecture Selection																																
Baseline Vulnerability Study																																
Hydraulic & Electric Actuator Assessment																																
Fuel Sponson Ballistic Vulnerability Assessment																																
Obsolesence Issues/Studies																																
Survivability Analysis																																
Legacy P3I Efforts																																
T&E Milestones																																
	△ Tech Data Study Contract Award				△ Complete Initial Phase - Live-Fire Vulnerability Test																											

R-1 SHOPPING LIST - Item No. 84

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CLASSIFICATION:

[illegible]

R-1 SHOPPING LIST - Item No. 84

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 12 of 26)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604212N ASW & Other Helo Development			PROJECT NUMBER AND NAME 2415 MH-60S Development			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	[*] 51.097	80.127	78.646	80.282	42.042	22.657	5.083	5.402
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Helicopter Combat Support (HC) mission is to maintain forward deployed fleet sustainability through rapid airborne delivery of materials and personnel and to support amphibious operations through search and rescue coverage. The primary roles of the aircraft are to conduct vertical replenishment (VERTREP), day/night ship-to-ship, ship-to-shore, and shore-to-ship external transfer of cargo; internal transport of passengers, mail and cargo, vertical on board delivery (VOD); airhead operations, and day/night search and rescue (SAR) , Organic Airborne Mine Countermeasures (OAMCM) and Armed Helo. The MH-60S ORD was modified in May 2000 to add Organic Airborne Mine Countermeasures (OAMCM) as a primary mission for the MH-60S. The AMCM mission will provide Carrier Strike Groups (CSGs)** and Expeditionary Strike Groups (ESGs)** with an OAMCM capability. The Armed Helo will provide Combat Search and Rescue (CSAR), Surface Warfare (SUW) and Maritime Interdiction Operations (MIO)*** to include Link 16. The aircraft secondary roles include torpedo and drone recovery, noncombatant evacuation operations (NEO), Sea Air Land (SEAL) and Explosive Ordnance Disposal (EOD) support.

Funding increase for the OAMCM program to address unplanned integration requirements and extension of schedule for sensors and integration on MH-60S.

*The FY 2004 budget reflects a \$2.0M Congressional add for Advance Cable Design which has been reduced by \$0.022million for Congressional Rescission, \$0.054 SBIR, \$0.002 for non-pay inflation savings and will be executed under 9366 and 9367.

** All missions stayed the same, the names were changed through the approval of Helicopter CONOPS as follows: Carrier Battle Groups (CVBGs) to Carrier Strike Groups (CSGs); and Amphibious Readiness Groups (ARGs) to Expeditionary Strike Groups (ESGs).

***The interim requirement letter (N78, dtd 12 Jun 03) changed the Force Protection (FP) to Maritime Interdiction Operations (MIO).

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																														
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604212N ASW & Other Helo Development	PROJECT NUMBER AND NAME 2415 MH-60S Development																																															
B. Accomplishments/Planned Program																																																	
<table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>21.013</td> <td>35.585</td> <td>35.687</td> <td>33.999</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>The design, development, integration and support of the AMCM unique items into the MH-60S airframe. Designed, developed, integrated and supported the interoperability of Automatic Flight Control System (AFCS) (Completed in FY02). T&E on AMCM Mission Kits as each weapon system is introduced to the MH-60S. AMCM Training systems engineering and development; including training situation analysis, and instructional system development (ISD) documentation. Live Fire Test and Evaluation for the MH-60S program. Navy field activity systems engineering, program management support and travel. Design, develop, integrate and support the Link 16 development (FY04 - cont.). Integrate Link16 training situation analysis, instructional system development (ISD) document (FY05 - cont.). RTOC initiatives: Improved organizational level oil analysis technology, replacement of flight control self retaining bolts (FY04), and weight reduction (FY04-FY05).</p> </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>28.162</td> <td>42.199</td> <td>42.959</td> <td>46.283</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>Developmental efforts on the avionics architecture and systems of the MH-60S helicopter. Development of the operator consoles, as well as software modifications, to support AMCM sensors and palletized system. Navy field activity systems engineering and test support, program management, and travel. Continue AMCM Training systems engineering and development; including training situation analysis, and instructional system development (ISD) documentation. AMCM sensor systems test and evaluation support (FY03 - continuing). Engineering and integration effort to incorporate AMCM requirements into the aircraft and ship C4I structure (FY04 - cont.). Design, develop, integrate and support the Link 16 development (FY04- cont.). Integrate Link16 training situation analysis, instructional system development (ISD) document (FY05 - cont.).</p> </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>1.922</td> <td>2.343</td> <td></td> <td></td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px;"> <p>Design, develop integrate, testing and support the Advanced Cable Design for the MH-60S.</p> </div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	21.013	35.585	35.687	33.999	RDT&E Articles Quantity						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	28.162	42.199	42.959	46.283	RDT&E Articles Quantity						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	1.922	2.343			RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07																																													
Accomplishments/Effort/Subtotal Cost	21.013	35.585	35.687	33.999																																													
RDT&E Articles Quantity																																																	
	FY 04	FY 05	FY 06	FY 07																																													
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RDT&E Articles Quantity																																																	
	FY 04	FY 05	FY 06	FY 07																																													
Accomplishments/Effort/Subtotal Cost	1.922	2.343																																															
RDT&E Articles Quantity																																																	

R-1 SHOPPING LIST - Item No.

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 14 of 26)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604212N ASW & Other Helo Development	PROJECT NUMBER AND NAME 2415 MH-60S Development

C. PROGRAM CHANGE SUMMARY:

	FY 04	FY 05	FY 06	FY 07
Funding:				
Previous President's Budget:	60.433	81.231	34.338	8.156
Current BES/President's Budget	51.097	80.127	78.646	80.282
Total Adjustments	-9.336	-1.104	44.308	72.126
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.724		
Congressional rescissions				
SBIR/STTR Transfer	-1.265			
Other Adjustments		-0.380	43.858	72.006
Economic Assumptions	-0.056		0.450	0.120
Reprogrammings	-8.015			
Congressional increases				
Subtotal	-9.336	-1.104	44.308	72.126

Schedule:

AMCM-An AMCM program restructuring as funded is reflected to incorporate schedule changes. Block 2A testing has been rescheduled due to delays in CSTRS deliveries and sensor development/testing, subsequently causing changes to FCA/PCA and IPR III. Block 2A Full Rate Production has been changed to Low Rate Initial Production based on completion of Block 2B Critical Design Review in Sep 05. Events have been updated based on revised completion date for Operational Testing (OT-IIC). Block 2B system development and testing adjusted to more accurately reflect revised contract award date, availability of sensors for integration, a more realistic test schedule and combining ALMDS with the Block 2B systems. RAMICS testing is shown separately due to a lower level of technical maturity causing development and integration to occur later than other Block 2B systems.

LINK 16 - The Block 3B scheduled IPR 1 date moved from late first quarter 04 to fourth quarter 04 due to delay associated with F/A-18/Link 16 hardware MS III decision. Development and test milestones were adjusted to accommodate the shift for the IPR. Availability of MIDS is an entry criteria for program initiation (IPR #1). The MIDS GFE, which is being developed by another program office, was put on contract after the Link-16 MS-III decision scheduled for late 3rd qtr FY04. This delay in MIDS caused a corresponding delay across the entire Block 3B program. To account for this delay, technical and schedule requirements have been adjusted as shown. The FCA and PCA were originally included to develop sparing data for the airframe modifications and the Link-16 MIDS included in Block 3B. The sparing data for airframe modifications will be developed as part of the ECP incorporating the change into the production line and sparing information for the Link-16 MIDS will be developed as part of the GFE. As such, FCA and PCA are no longer a formal requirement of the program.

Technical: N/A

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604212N ASW & Other Helo Development			PROJECT NUMBER AND NAME 2415 MH-60S Development				

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
017900 APN-1 MH-60S AMCM (Included in numbers above)	402.368	399.206	589.067	688.365	675.133	727.715	552.342	545.225	987.585	5,567.01
060510 APN-6 MH-60S	26.150	16.711	19.593	8.697	4.982	1.161	1.611	1.811		80.716

E. ACQUISITION STRATEGY:

Airborne Mine Countermeasures (AMCM) and Armed Helo are elements of the existing MH-60S ACAT IC Program. MH-60S will employ an evolutionary acquisition approach via the MH-60S Block Upgrades. This allows for future modification for systems still in early development. The block upgrades will maximize commonality across all MH-60S missions and all AMCM/Armed Helo weapon systems, including logistics, training and maintenance. The MH-60S block upgrades are as follows.

- Block 1 - Combat Support Helicopter
- Block 2- Airborne Mine Countermeasures
- Block 3 - Armed Helo

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RD&E, N / BA-5			PROGRAM ELEMENT 0604212N ASW & Other Helo Development			PROJECT NUMBER AND NAME 2415 MH-60S Development						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development, Airfr	SS/CPAF	Sikorsky, Stratford, CT	66.798	23.774	Various	23.718	Various	18.228	Various	15.995	148.513	148.513
Primary Hardware Development, Avion	SS/CPAF	Lockheed Martin, Owego, NY	80.683	30.386	Various	30.988	Various	30.510	Various	16.682	189.249	189.249
Primary Hardware Development, CS	TBD	TBD	31.475	2.343	Various	1.850	Various	3.397	Various	2.844	41.909	41.909
Training Development	Various	NAWCAD PAX River & TSD	2.135	1.700	Various	0.500	Various	0.500	Various		4.835	
Aircraft Integration											0.000	
Ship integration											0.000	
Systems Engineering	SS/CPAF	Cortland Cable, NY	3.064								3.064	3.064
											0.000	
GFE	Various	Various	1.300								1.300	
Award fees	SS/CPAF	Sikorsky & Lockheed Martin	3.715	3.600	Various						7.315	7.315
ACTD	MIPR	Bolling AFB	1.100								1.100	
Subtotal Product Development			190.270	61.803		57.056		52.635		35.521	397.285	
Remarks:												
Development Support											0.000	
Software Development, Airframe											0.000	
Software Development, Avionics											0.000	
Integrated Logistics Support	Various	Various	7.608	4.712	Various	2.327	Various	2.351	Various	Continuing	Continuing	
Configuration Managemnet											0.000	
Technical Data											0.000	
Studies & Analysis	Various	NAWCAD PAX River	2.674								2.674	
GFE											0.000	
Subtotal Support			10.282	4.712		2.327		2.351		Continuing	Continuing	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-5			PROGRAM ELEMENT 0604212N ASW & Other Helo Development				PROJECT NUMBER AND NAME 2415 MH-60S Development					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	Various	14.825	1.910	Various	7.656	Various	7.504	Various	6.089	37.984	
Operational Test & Evaluation	WX	Various	1.552	2.946	Various	0.310	Various	5.353	Various	1.800	11.961	
Live Fire Test & Evaluation	WX	Various	2.548	0.855	Various						3.403	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			18.925	5.711		7.966		12.857		7.889	53.348	
Remarks:												
Contractor Engineering Support	Various	Various	5.471	0.300	Various	0.788	Various	0.788	Various	Continuing	Continuing	
Government Engineering Support	Various	Various	23.106	5.372	Various	7.942	Various	9.558	Various	Continuing	Continuing	
Program Management Support	Various	Various	10.749	2.029	Various	2.267	Various	1.843	Various	Continuing	Continuing	
Travel	WX	NAWCAD	0.889	0.200	Various	0.300	Various	0.250	Various	0.800	2.439	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			40.215	7.901		11.297		12.439		Continuing	Continuing	
Remarks:												
Total Cost			259.692	80.127		78.646		80.282		Continuing	Continuing	
Remarks:												

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:											
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-5												0604212N ASW and Other Helo Development												2415 MH-60S Development											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
Acquisition Milestones								IPR III Block 2A ▲					IOC Block 2A ★		IPR IV Block 2B ▲																	FOC AMCM ★			
MH-60S AMCM Aircraft Development						Block 2A	FCA ▲	PCA ▲	2B PDR ▲	2B CDR ▲																									
AMCM Mission Kits CSTRS & Common Console	2A Ground Testing □											2B Grn Tst (ALMDS, OASIS, AMNS) □				2B Grn Tst (RAMICS) □																			
Test & Evaluation Milestones																																			
MH-60S AMCM Block 2A							CT					DT-IIC		OT-IIC																					
MH-60S AMCM Block 2B (ALMDS, OASIS, ANMS)														CT		DT-IID		OT-IID																	
(RAMICS)																		CT		DT-IID		OT-IID													
Production Milestones																																			
AMCM Mission Kits																																			
FRP												Contract Award Block 2A ▲				Contract Award Block 2B ▲																			
Deliveries CSTRS	▲2		▲3	▲3	▲3						▲2							▲2	▲2	▲2	▲3	▲3	▲3	▲2	▲4	▲3	▲3	▲3	▲4	▲3	▲3	▲3			
Common Console				▲3	▲3		▲4							▲2						▲2	▲2	▲1	▲1	▲3	▲3	▲3	▲2	▲4	▲3	▲3	▲3				

R-1 SHOPPING LIST - Item No. 84

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 19 of 26)

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&BA-5		0604212N ASW and Other Helo Development				2415 MH-60S Development			
Schedule Profile		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Block 2A									
Ground Testing		1Q							
Contractor Test		4Q	1Q-4Q						
Initial Production Delivery (Common Consoles & CSTRS)		1Q-4Q	1Q-3Q						
Functional Configuration Audit			3Q						
Physical Configuration Audit			4Q						
Developmental Testing (DT-IIC)			4Q	1Q-3Q					
Operational Testing (OT-IIC)				3Q-4Q					
Low Rate Production (LRIP) Decision 2A/IPR III (Qty 2)			4Q						
Contract Award - Production				1Q					
Initial Operational Capability - Block 2A				4Q					
Low Rate Initial Production Delivery (Common Consoles & CSTRS)				3Q	2Q				
Block 2B									
PDR			3Q						
CDR			4Q						
Contractor Test				1Q-4Q	1Q-2Q				
Developmental Testing (DT-IID)					2Q-4Q				
Operational Testing (OT-IID)									
RAMICS Contractor Test					4Q				
RAMICS Developmental Testing (DT-IID)									
RAMICS Operational Testing (OT-IID)									
Full Rate Production (FRP) Decision 2B/ IPR IV					2Q				
Contract Award - Production					3Q				
Full Rate Production Delivery (Common Consoles & CSTRS)									
Full Operational Capability - Block 2B									

R-1 SHOPPING LIST - Item No.

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Exhibit R-2, RD TEN Budget Item Justification

(Exhibit R-2, page 20 of 26)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:											
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-5												0604212N ASW and Other Helo Development												2415 MH-60S Development											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4							
Acquisition Milestones				△							△																								
(Block 3B)				IPR 1							IPR 2				△	☆																			
MH-60S Block 3B Development																																			
Design/Build/Integration																																			
MH-60S Block 3B Development Milestones					△	△	△	△																											
					SRR	SDR	PDR	CDR																											
Aircraft Block 3B Mod Delivery														△																					
Software					SRR	△				△	Release 16.0	△	Release 16.1	△	Release 16.2																				
Test & Evaluation Milestones												△	OTRR	△	OTRR																				
Contractor Test											CT-IIJ																								
Development Test													DT-IIJ																						
Operational Test															OT-IIJ																				

R-1 SHOPPING LIST - Item No. 84

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 21 of 26)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E, N / BA-5	0604212N ASW and Other Helo Development				2415 MH-60S Development			
Schedule Profile - Link 16	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
BLOCK 3B								
IPR 1	4Q							
System Design, Build, and Integration	2Q-4Q	1Q-4Q	1Q-4Q					
Systems Requirements Review (SRR)		1Q						
System Design Review (SDR)		2Q						
Preliminary Design Review (PDR)		3Q						
Software Readiness Review (SRR)		3Q						
Critical Design Review (CDR)		4Q						
Software Delivery 16.0			1Q-2Q					
Aircraft Block 3B Mod Delivery				2Q				
Contractor Test (CT-IIJ)			2Q-3Q					
IPR 2			3Q					
Software Delivery 16.1			3Q					
Developmental Test Readiness Review (DTRR)			4Q					
Software Delivery 16.2				1Q				
Developmental Testing (DT-IIJ)			4Q	1Q				
Operational Test Readiness Review				1Q				
Operational Testing (OT-IIJ)				2Q				
IPR 3				3Q				
IOC				4Q				

R-1 SHOPPING LIST - Item No.

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 22 of 26)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604212N ASW & OTHER HELO DEVELOPMENT			PROJECT NUMBER AND NAME 9055 SH-60 Laser Aim Scoring System (LASS)			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		0.922						
RDT&E Articles Qty								
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>(U) A. The Laser Aim Scoring System (LASS) provides real-time, quantitative feedback on critical aspects of laser guided weapon employment not currently available from existing Navy laser scoring systems. This feedback has been proven to significantly improve flight crew weapon delivery capabilities during nearly a decade of use by the U.S. Army. The system consists of three major components: A Base Station, Target Kit and Aircraft Flight Data Unit. LASS will be adapted to existing Navy seaborne target to support Navy H-60 armed helicopter training and readiness events requiring laser scoring capability.</p>								

R-1 SHOPPING LIST - Item No. 84

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 23 of 26)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604212N ASW & OTHER HELO DEVELOPMENT	PROJECT NUMBER AND NAME 9055 SH-60 Laser Aim Scoring System (LASS)		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		0.922		
RDT&E Articles Quantity				
Continue the design and development efforts required for adaptation of an existing LASS base station, target and flight data unit to Navy H-60 configuration requirements.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				

R-1 SHOPPING LIST - Item No. 84

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																							
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R-1 SHOPPING LIST - Item No. 84

UNCLASSIFIED

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604212N ASW & OTHER HELO DEVELOPMENT			PROJECT NUMBER AND NAME 9055 SH-60 Laser Aim Scoring System (LASS)				
D. OTHER PROGRAM FUNDING SUMMARY:									
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>
APN BLI-053000 H-60 Series	16.717	11.610	12.360	13.790	7.734	8.287	8.465	8.647	Total Cost 87.610
E. ACQUISITION STRATEGY:									
FY05 RDT&E funding provided for Laser Aim Scoring System will be placed on an existing contract to complete a four year effort. The program will develop an aircrew training system which provides real-time feedback to H-60 flight crews on the effectiveness in designating targets with Laser energy through a forward looking infrared. The system will track effectiveness and tactical									

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CLASSIFICATION:

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EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5				R-1 ITEM NOMENCLATURE 0604214N / AV-8B Aircraft				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY2011
Total PE Cost	10.340	13.140	15.556	13.949	12.703	16.535	12.621	12.376
0652 AV-8B	10.340	12.157	15.556	13.949	12.703	16.535	12.621	12.376
9546 - Litening Pod		0.983						
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: (U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The program provides AV-8B Design, Development, Integration and Test of the following improvements: The Engine Life Management Program, Escape System, Joint Mission Planning System (JMPS), Tactical Aircraft Moving Map Capability (TAMMAC) and Aircraft Handling/Readiness Management Plan (RMP). The ELMP is a comprehensive plan to increase safety of flight and operational readiness of the AV-8B F402-RR-408 Engine. PMA-257 will accomplish this mission by conducting Engineering Project Description (EPD) investigations and performing a series of planned Accelerated Simulated Mission Endurance Tests (ASMET) to derive engineering improvements to the engine. The Escape System qualifies an improved ejection seat to reduce the risk of injury to aircrew. The JMPS is required as part of the DON directed migration to a common Navy and Marine Corps mission planning system. The TAMMAC is the avionics system that will replace the aging/obsolete AN/ASQ-196 digital map set and the AN/ASQ-194 data storage set presently installed. A/C Handling and performance is all engineering activities for development and design to support aircraft safety flight clearance and concept exploration to support POM objectives. PMA-257's Evolutionary Acquisition Strategy includes Design, Development, Integration and Test activity under the consolidated effort of Block Developments: OSCAR, H2.0, H4.0, H6.0 and following systems. TAMMAC is planned for incorporation into Block H4.0. The Litening Pod Analysis of Alternatives (AOA) funding is for the next generation AV-8B Litening Intelligence, Surveillance, and Reconnaissance (ISR) pod with video link capability to Forward Air Controllers (FAC) and other ground recipients in support of real time digital Close Air Support (CAS) missions. The scope of this Analysis of Alternatives (AOA) includes an analysis of available systems that can be readily integrated into the existing Litening targeting pods in fleet AV-8B, F/A-18 D, and Forward Air Controller ground station hardware currently employed and or in development for all US Armed Forces with the specific goals of greater inteoperability and commonality of hardware.								

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 Exhibit R-2, RDTEN Budget Item Justification
 (Exhibit R-2, page 1 of 9)

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604214N / AV-8B AIRCRAFT		PROJECT NUMBER AND NAME 0652 / AV-8B				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	10.340	13.140*	15.556	13.949	12.703	16.535	12.621	12.376
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The program provides AV-8B Design, Development, Integration and Test of the following improvements: The Engine Life Management Program (ELMP), Escape System, Tactical Aircraft Moving Map Capability (TAMMAC) and Aircraft Handling/Readiness Management Plan (RMP). The ELMP is a comprehensive plan to increase safety of flight and operational readiness of the AV-8B F402-RR-408 Engine. PMA-257 will accomplish this mission by conducting Engineering Project Description (EPD) investigations and performing a series of planned Accelerated Simulated Mission Endurance Tests (ASMET) to derive engineering improvements to the engine. The Escape System qualifies an improved ejection seat to reduce the risk of injury to aircrew. The JMPS is required as part of the DON directed migration to a common Navy and Marine Corps mission planning system and TAMMAC functionality in H4.0 block development. The TAMMAC is the avionics system that will replace the aging/obsolete AN/ASQ-196 digital map set and the AN/ASQ-194 data storage set presently installed. A/C Handling and performance is all engineering activities for development and design to support aircraft safety flight clearance and concept exploration to support POM objectives.

* Include Congressional Add (Project Unit 9546) of \$1M which was reduced by \$17K for congressional undistributed reductions resulting in a net \$983K for the AOA.

R-1 SHOPPING LIST - Item No. 85

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 2 of 9)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604214N / AV-8B AIRCRAFT	PROJECT NUMBER AND NAME 0652 / AV-8B																	
B. Accomplishments/Planned Program																			
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	FY 04	FY 05	FY 06	FY07															
Aircraft Handling/Readiness Management Plan	0.025	0.284	1.951	6.219															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 60px;">Conduct study of AV-8B Obsolescence (Laser Maverick & other) issues & continue aircraft handling and performance investigations to improve safety and increase operational performance. Address readiness improvements and correction of deficiencies/issues including obsolescence, structural fatigue, parachute assemblies and trajectory divergence. Obsolescence solutions will be designed and developed for the display computer.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY07</th></tr></thead><tbody><tr><td>Engine Life Management Plan (ELMP)/ASMET</td><td>5.007</td><td>5.952</td><td>8.359</td><td>4.458</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY07	Engine Life Management Plan (ELMP)/ASMET	5.007	5.952	8.359	4.458	RDT&E Articles Quantity				
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RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 60px;">Testing, analysis and integration to improve safety of flight and operational readiness of the AV-8B Engine. Formalize engine design development efforts to be incorporated into the engine. Complete ASMET III testing of the AV-8B engine and formalize Engine design development efforts based off of ASMET III and incorporate into the engine.</div>																			
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RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 60px;">H4.0 Block Development including JMPS and program initiation of TAMMAC Design and Functional Analysis and Allocation is underway. H4.0/TAMMAC Systems Requirements Review occurred Sep 04 with Critical Design Review Dec 04. The H4.0 development schedule had a 1 QTR impact due to OSCAR and H2.0 technical issues.</div>																			

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																												
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604214N / AV-8B AIRCRAFT	PROJECT NUMBER AND NAME 0652 / AV-8B																																																																													
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R-1 SHOPPING LIST - Item No. 85

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 4 of 9)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604214N / AV-8B AIRCRAFT			PROJECT NUMBER AND NAME 0652 / AV-8B			

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY2011</u>	<u>To Complete</u>	<u>Total Cost</u>
APN BLI 051400, AV-8B Series Modifications	64.016	25.908	34.862	20.612	18.134	25.477	17.387	17.518	84.054	307.968

E. ACQUISITION STRATEGY:

All efforts under Aircraft Handling/RMP provide investigations and analysis of testing and flight clearance authorization necessary to assess overall system capability and integration of projects. Funding for the Engine Life Management Program (ELMP) will be placed on a cost type contract to Rolls Royce to address safety of flight issues, top readiness degraders, engine removal and mission failure drivers in order to improve Fleet readiness and cost of ownership. It is also developed to assess life management program issues and design fixes for any service revealed deficiencies. PMA-257's Evolutionary Acquisition Strategy includes Design, Development, Integration and Test activity under the consolidated effort of Block Developments: OSCAR, H2.0, H4.0, H6.0 and following systems. The development and integration of JMPS/AVJMPS is occurring concurrently with H2.0. TAMMAC is planned for incorporation into Block H4.0.

R-1 SHOPPING LIST - Item No. 85

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-5			PROGRAM ELEMENT 0604214N / AV-8B AIRCRAFT					0652/AV-8B				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Various	Various	10.504	0.386	02/05			3.130	11/06	3.848	17.867	17.867
Primary Hdw Dev. - Ejection Seat	C/CPFF	Various	2.639								2.639	2.639
Primary Hdw Dev. - ELMP	C/CPFF	Rolls Royce	13.561	1.159	12/04	1.442	12/05	0.854	12/06	12.413	29.429	29.429
Primary Hdw Dev. - H20	C/CPFF	Ratheon / Boeing	5.603								5.603	5.603
Primary Hdw Dev. - Other	Various	Various	1,360.587								1,360.587	1,360.587
Systems Engineering	WX	NAWC-WD China Lake	30.964			0.410	11/05	0.414	11/06	1.000	32.788	
Systems Engineering	WX	NAWC-AD Pax	3.310							16.782	20.092	
Systems Engineering	WX	NAWC-AD NADEP	11.104								11.104	
Training Development	WX	TSD, ORLANDO				1.000	11/05				1.000	
Aircraft Integration	CPFF	Boeing St Louis				0.075	11/05	0.530	11/06		0.605	0.605
Award Fees												
Subtotal Product Development			1,438.272	1.545		2.927		4.928		34.043	1,481.715	
Remarks:												
Software Development - JMPS	WX	NAWC-WD China Lake	4.808	5.339	02/05	2.204	02/06	3.179	02/07	Continuing	Continuing	
Development Support	Various	Various		0.125	11/04	0.274	11/05	0.310	11/06	Continuing	Continuing	
Integrated Logistics Support	WX	NAWC-AD Pax		0.289	01/05	0.308	11/05				0.597	
Configuration Management	WX	NAWC-AD Pax		0.050	02/05						0.050	
Technical Data	CPFF	Boeing		0.283	06/05	0.480					0.763	0.763
Studies & Analyses	TBD	TBD				0.607	11/05	0.705	11/06	Continuing	Continuing	
GFE												
Award Fees												
Subtotal Support			4.808	6.085		3.873		4.194		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 85

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 6 of 9)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-5			PROGRAM ELEMENT 0604214N / AV-8B AIRCRAFT					PROJECT NUMBER AND NAME 0652 / AV-8B				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWC-WD China Lake	34.983	2.653	02/05	5.225	02/06	2.065	02/07	Continuing	Continuing	
Operational Test & Evaluation	WX	NAWC-WD China Lake	19.458			0.500	11/05			1.250	21.208	
Test Assets	Various	USAF/NAWCAD-PX						0.200	11/06		0.200	
Subtotal T&E			54.441	2.653		5.725		2.265		Continuing	Continuing	
Remarks:												
Contractor Engineering Support	T&M	DCS Corp	48.960	0.570	12/04	1.210	12/05	0.991	12/06	2.359	54.090	54.090
Government Engineering Support	WX	NAWC-AD/WD	2.909	1.163	10/04	1.658	10/05	1.393	10/06	13.434	20.557	
Travel	WX	NAWC-AD PAX	0.637	0.140	10/04	0.164	10/05	0.177	10/06	0.442	1.560	
SBIR Assessment												
Subtotal Management			52.506	1.873		3.031		2.562		16.235	76.207	
Remarks:												
Total Cost			1,550.027	12.157		15.556		13.949		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 85

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 7 of 9)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																DATE:																		
APPROPRIATION/BUDGET / PROGRAM ELEMENT NUMBER AND NAME																PROJECT NUMBER AND NAME																		
RDT&E, N / 0604214N / AV-8B AIRCRAFT																0652 / AV-8B																		
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011					
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
Acquisition Milestones								H2.0 IOC ★					H4.0 TAMMAC IOC ★								RMP OTRR ★							RMP JOC ★						
System Development	H4.0/TAMMAC FIR AVJMPS CDR				H4.0/TAMMAC PDR/CDR								RMP Display Computer PDR				RMP Display Computer CDR																	
Engine Life Management Program Contract Award	ELMP				ELMP				ELMP								ELMP								ELMP									
Software JMPS Delivery																																		
H2.0 Delivery																																		
H4.0/TAMMAC S/W Delivery																																		
Test & Evaluation Milestones																																		
Development Test	H2.0 DT				H4.0/TAMMAC DT												RMP/Display Computer DT																	
Operational Test	JMPS DT/OT												H4.0/TAMMAC OT								RMP/Display Computer OT													

R-1 SHOPPING LIST - Item No. 85

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 8 of 9)

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R-1 SHOPPING LIST - Item No. 85

UNCLASSIFIED

Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 9 of 9)

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					R-1 ITEM NOMENCLATURE 0604215N, Standards Development			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	45.346	63.105	84.308	74.273	70.255	52.866	39.301	38.381
0572/Joint Services/Navy Standard Avionics	32.729	47.521	71.105	58.220	54.175	35.486	21.802	19.506
1857/Calibration Standards	4.213	5.476	1.365	1.658	1.711	1.744	1.787	1.831
2311/Stores Planning and Weaponerring Module	7.456	9.349	11.077	13.450	13.408	14.655	14.710	16.022
2312/Common Helicopters	0.948	0.759	0.761	0.945	0.961	0.981	1.002	1.022
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
<p>Project 0572, Joint Services/Navy Standard Avionics Components and Subsystems: This project provides for the identification, design, development, test, evaluation and qualification of standard avionics for Navy use, and wherever practicable, use across all Services and Foreign Military Sales. Such air combat electronics developments include communications, navigation, flight avionics, safety systems, and flight mission information systems for both forward fit and retrofit aircraft. These efforts continue to maintain federated systems while encouraging transition of procurements to support a modular system for enhanced performance and affordability. Consideration is given up front to reduce acquisition costs through larger procurement quantities that satisfy multi-aircraft customer requirements and that reduce life cycle costs in the areas of reliability, maintainability, and training. Several examples of past successful tasks under this project include the Standard Central Air Data Computer, Solid State Barometric Altimeter, and Downed Aircraft Location System, jointly developed with the Air Force and Army and currently installed on numerous Navy, Air Force and Army aircraft. This project also funds Navy chairmanship and participation in the Joint Services Review Committee (JSRC) for Avionics Standardization. The RDT&E Articles include Communication Navigation Surveillance/Air Traffic Management (CNS/ATM) Engineering Manufacturing Development (EMD) units, Joint Tactical Radio Systems (JTRS) EDM units, Aircrew Wireless Internal Communication Systems (AWICS) EMD units, and Vector Product Format (VPF) software units.</p> <p>Project 1857, Calibration Standards: This project is a Navy-wide program to develop required calibration standards (hardware) in all major measurement technology areas in support of Navy Weapons systems, ground and air, throughout the Fleet. It funds Navy lead-service responsibilities in the DOD and Joint Services Metrology Research and Development program. This project supports the military requirement to verify the performance of all test systems used to validate the operation of Navy Weapon Systems with calibration standards traceable to the National Institute of Standards and Technology.</p>								

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EXHIBIT R-2, RDT&E Budget Item Justification		DATE:	February 2005
APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /BA-5		0604215N, Standards Development	
<p>Project 2311, Stores Planning and Weaponneering Module: The Naval Aircraft Weaponneering Components (NAWC) project, now referred to as the Weaponneering and Stores Planning (WASP) components, are integrated software products that allow pilots to determine the best combinations of weapons and delivery conditions to achieve the desired level of target damage, eliminate weapon delivery solutions that violate aircraft T/M/S specific safety-of-flight envelopes, and perform detailed weapons employment planning. WASP is approved by N78 as a permanent flight clearance system for the F/A-18 A, A+, B, C, D and D(RC) aircraft, and for all future aircraft T/M/S in the Joint Mission Planning System (JMPS). As a flight clearance system, WASP components will alert pilots if their planned weapon release conditions will result in bomb-to-bomb collisions, bomb-to-aircraft collisions, aircraft overstress, or excessive risk of aircraft loss/damage in the event of fuze early bursts. Weaponneering capabilities are fundamental requirements for Interdiction, Armed RECCE and Close Air Support mission planning, therefore WASP product availability is critical to successful Post-Joint Mission Planning System (JMPS) Combat 1 OT&E. The WASP product encompasses a multitude of GOTS/COTS software components and tools (aircraft target maneuver simulations, weapon flyout models, target probability of damage calculators, etc.), which are delivered as new targets are identified, emergent requirements for new aircraft T/M/S, stores and weapons are approved by N78, and new flight clearances and flight restrictions issued by NAVAIRSYSCOM. WASP components are being delivered on an annual basis starting with v1.0 in September FY03.</p> <p>Project 2312, Common Helicopters: Automated mission planning systems to date have been developing targeting planning requirements for fixed-wing aircraft, while the unique planning requirements for helicopters have not been addressed. The unique and enhanced automated mission planning requirements that must be developed and implemented for helicopters include: data loading, an enhanced route editor (serpentine routing, hover, etc.) manipulation of higher fidelity (smaller scale) maps and imagery, enhanced performance tools (performance in and out of ground effect, performance degradation due to atmospheric conditions & elevation), and enhanced fidelity of landing zone, target zone, and threat analyses. The following type/model/series aircraft are supported by this PE: AH-1W, UH-1N, H-46D/E, H-53D/E, H-60B/F/H/R/S, and V-22. The developed common helicopter functionality will initially be implemented in Naval Portable Flight Planning Software (N-PFPS) then migrated to JMPS. Subsequent common helicopter functionality will be developed for implementation in the Joint Mission Planning Segment (JMPS) after JMPS initial fielding.</p>			

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 2 of 50)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604215N, Standards Development				PROJECT NUMBER AND NAME 0572, Joint Services/Navy Standard Avionics Components and Subsystems			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	32.729	47.521	71.105	58.220	54.175	35.486	21.802	19.506
RDT&E Articles Qty	29	1	9	17				

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Joint Services/Navy Standard Avionics Components and Subsystems project provides for the identification, design, development, test, evaluation and qualification of standard avionics and mandatory safety improvements for Navy use, and wherever practicable, use across all services. Standard avionics systems under development include the Communication Navigation Surveillance Air Traffic Management (CNS/ATM), Advanced Mission Computer & Displays (AMC&D), Vector Product Format (VPF), Aircrew Wireless Internal Communication Systems (AWICS), Joint Tactical Radio System (JTRS), Ground Proximity Warning System/Terrain Awareness Warning System (GPWS/TAWS), Military Flight Operational Quality Assurance (MFOQA), Common Avionics Displays and the Avionics Component Improvement Program (AVCIP). GPWS/TAWS, MFOQA, Common Avionics Displays and AVCIP are new starts for FY 2006. Participation in Human Factors Quality Management Board (HFQMB) ensures Navy safety upgrades and mandatory safety improvements for naval aircraft. FY05 Congressional adds are for MFOQA and Screen Display.

The RDT&E Articles include Communication Navigation Surveillance/Air Traffic Management (CNS/ATM) Engineering Manufacturing Development (EMD) units, Joint Tactical Radio Systems (JTRS) EDM units, Aircrew Wireless Internal Communication Systems (AWICS) EMD units, and Vector Product Format (VPF) software units.

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 3 of 50)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																														
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604215N, Standards Development	PROJECT NUMBER AND NAME 0572, Joint Services/Navy Standard Avionics Components and Subsystems																																															
B. Accomplishments/Planned Program																																																	
<table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 30%; text-align: center;">AMC&D</td> <td style="width: 15%; text-align: center;">FY 04</td> <td style="width: 15%; text-align: center;">FY 05</td> <td style="width: 15%; text-align: center;">FY 06</td> <td style="width: 15%; text-align: center;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">8.712</td> <td style="text-align: center;">6.209</td> <td style="text-align: center;">4.669</td> <td style="text-align: center;">6.416</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>For F/A-18E/F system: completed DT-IIA-4; conducted OT-IIA-2 (OPEVAL), continued integration of 8X10 display, Fibre Channel Network Switch (FCNS) and AMC. Completed integration of 8X10 display, FCNS and AMC. Achieved MS III for FCNS and AMC. Conduct DT/OT for 8x10 display and Achieve MS III. For AV-8B: completed OT-11B (OPEVAL) and achieved MS III. Conduct parts obsolescence research, development, integration, test and evaluation efforts to establish viable system baseline in support of new production requirements and perform platform integration studies and activities to expand user base.</p> </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 30%; text-align: center;">JSRC</td> <td style="width: 15%; text-align: center;">FY 04</td> <td style="width: 15%; text-align: center;">FY 05</td> <td style="width: 15%; text-align: center;">FY 06</td> <td style="width: 15%; text-align: center;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">0.752</td> <td style="text-align: center;">0.795</td> <td style="text-align: center;">1.175</td> <td style="text-align: center;">1.326</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>Continue to provide leadership in support of the Navy interest to the JSRC tri-service committee promoting commonality and joint programs with focus on interoperability, communications, CNS/ATM, Joint Services obsolescence Management Plan and the update of the Core Avionics Master Plan (CAMP). Support and participate in Avionics Operational Advisory Group (OAG) panels and HFQMB.</p> </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 30%; text-align: center;">JMPS</td> <td style="width: 15%; text-align: center;">FY 04</td> <td style="width: 15%; text-align: center;">FY 05</td> <td style="width: 15%; text-align: center;">FY 06</td> <td style="width: 15%; text-align: center;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">1.092</td> <td style="text-align: center;">0.340</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px;"> <p>Software developmental and operational testing efforts for Tactical Air Moving Map Capability/Joint Mission Planning System (TAMMAC/JMPS) Map planning capability. Resolved deficiencies from testing. Incorporated common requirements from the TAMMAC integration of the MH-60S and AV-8B platforms.</p> </div>					AMC&D	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	8.712	6.209	4.669	6.416	RDT&E Articles Quantity					JSRC	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.752	0.795	1.175	1.326	RDT&E Articles Quantity					JMPS	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	1.092	0.340	0.000	0.000	RDT&E Articles Quantity				
AMC&D	FY 04	FY 05	FY 06	FY 07																																													
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Accomplishments/Effort/Subtotal Cost	1.092	0.340	0.000	0.000																																													
RDT&E Articles Quantity																																																	

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 4 of 50)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																														
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604215N, Standards Development	PROJECT NUMBER AND NAME 0572, Joint Services/Navy Standard Avionics Components and Subsystems																																															
B. Accomplishments/Planned Program (Cont.)																																																	
<table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 30%;">CNS/ATM</td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>10.472</td> <td>13.435</td> <td>21.558</td> <td>3.246</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td>14</td> <td></td> <td>1</td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>Continued CNS/ATM integration of Mode S and Required Navigation Performance (RNP RNAV) functional integration and certification efforts into naval aircraft. Perform naval aircraft platform functional integration for F/A-18E/F, MH-60S, MH-60R, AH-1Z , UH-1Y and follow-on platforms in the areas of communications, navigation, surveillance, processing and displays. Capabilities include Mode S, 8.33khz, FM Immunity, and RNP/RNAV. Continue CNS/ATM requirements definition for follow-on platforms. RDT&E articles in FY04 required for Mode S and RNP RNAV integration and test. FY06 article is required for integration and testing on the AH-1Z.</p> </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 30%;">VPF</td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>3.226</td> <td>2.362</td> <td>0.599</td> <td>0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td>1</td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>Conducted Vector Product Format (VPF) integration study for TAMMAC. Perform VPF software and hardware integration into TAMMAC. Completed VPF Integration Systems Design Review (SDR). Award VPF development contract. Conduct SRR, PDR and CDR review on VPF. Conduct VPF Developmental Testing (DT). Conduct VPF Systems Qualification Testing (SQT). Conduct VPF Operational Test. One DMC TAMMAC software unit will be procured to conduct T&E of the VPF software in TAMMAC.</p> </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 30%;">AWICS</td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>3.759</td> <td>2.375</td> <td>0.000</td> <td>0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td>15</td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px;"> <p>Safety: Awarded Phase III SBIR Sole Source contract. Performed initial developmental testing on lead platform (CH-53E). Achieve Milestone C for AWICS. RDT&E articles are used for environmental, integration, Electromagnetic Interference (EMI), Electromagnetic Capability (EMC), Test for Electromagnetic Propagation and Evaluation for Secure Transmissions (TEMPEST) and flight testing.</p> </div>					CNS/ATM	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	10.472	13.435	21.558	3.246	RDT&E Articles Quantity	14		1		VPF	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	3.226	2.362	0.599	0.000	RDT&E Articles Quantity		1			AWICS	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	3.759	2.375	0.000	0.000	RDT&E Articles Quantity	15			
CNS/ATM	FY 04	FY 05	FY 06	FY 07																																													
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Accomplishments/Effort/Subtotal Cost	3.759	2.375	0.000	0.000																																													
RDT&E Articles Quantity	15																																																

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 5 of 50)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604215N, Standards Development	PROJECT NUMBER AND NAME 0572, Joint Services/Navy Standard Avionics Components and Subsystems																	
B. Accomplishments/Planned Program (Cont.)																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">JTRS</td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>4.716</td> <td>20.005</td> <td>30.504</td> <td>21.682</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td>8</td> <td>17</td> </tr> </table>					JTRS	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	4.716	20.005	30.504	21.682	RDT&E Articles Quantity			8	17
JTRS	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	4.716	20.005	30.504	21.682															
RDT&E Articles Quantity			8	17															
<p>Awarded integration study contracts for the Joint Tactical Radio System (JTRS). Began aircraft integration analysis and planning for lead platforms. Began development of Concept of Operations (CONOPS), mission planning, and message processing software for JTRS. The acquisition plan identifies E-2 AHE (Advanced Hawkeye) as the Lead Platform and includes JTRS Integration Studies/Analyses including follow-on platforms. Initiate and complete E-2 AHE Multi-mode Information Distribution System (MIDS) JTRS Spiral 1 integration including development of required ancillary equipment. RDT&E articles are Engineering Development Models (EDMs) for integration lab installs and test aircraft installs.</p>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">GPWS/TAWS</td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.000</td> <td>0.000</td> <td>6.100</td> <td>10.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>					GPWS/TAWS	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	6.100	10.000	RDT&E Articles Quantity				
GPWS/TAWS	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	6.100	10.000															
RDT&E Articles Quantity																			
<p>Begin development of GPWS/TAWS algorithm tailored to the platform performance and missions of the MH-60R, MH-60S, UH-1Y and AH-1Z. Develop simulation models for UH-1Y and AH-1Z for use at manned flight simulator (MFS). Evaluate MH-60R and MH-60S simulation models for suitability in GPWS/TAWS development effort. Develop GPWS/TAWS algorithms utilizing MFS as real-time hardware and pilot in the loop tool. Develop and evaluate algorithm interfaces necessary for integration of the algorithm within platform OFF. Award H-60 Integration Contract. Award H-1 Integration Contract Award. Conduct H-60 and H-1 DT and OT.</p>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">MFOQA</td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.000</td> <td>1.000</td> <td>4.500</td> <td>9.800</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>					MFOQA	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	1.000	4.500	9.800	RDT&E Articles Quantity				
MFOQA	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	1.000	4.500	9.800															
RDT&E Articles Quantity																			
<p>Initiate support to USN Naval Test Pilot School for the Fleet High Angle of Attack Program in support of MFOQA trending, data analysis, and database management concept development. Efforts will focus on F-18, H-60, V-22, and T-45 platforms and core capability developmental effort to include parameter optimization, technology validation, and standardization of interfaces and protocols to be used. Additional efforts will include software development and integration for fleetwide MFOQA implementation. Prepare and Conduct PDR and CDR.</p>																			

R-1 SHOPPING LIST - Item No. 86

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																														
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604215N, Standards Development	PROJECT NUMBER AND NAME 0572, Joint Services/Navy Standard Avionics Components and Subsystems																																															
B. Accomplishments/Planned Program (Cont.)																																																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">COMMON AVIONICS DISPLAYS (CAD)</td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.000</td> <td>1.000</td> <td>1.000</td> <td>4.250</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p style="margin-top: 10px;">Conduct Tech Demo to develop and test a projection display as a form-fit-function demonstration replacement for the IP-1318A/A, a 5x5 CRT display currently used on F/A-18C/D/E/F aircraft. The Tech Demo is maturing this technology as an option for the CAD program. Efforts include laboratory, ground and flight testing for optical and performance testing in addition to ground and flight hours for integration and performance testing. Initial efforts will focus on acquisition planning and display prioritization in conjunction with a Trade Study resulting in development of independent cost estimates, request for proposals, and award of a common display contract. Conduct Initial Baseline Review (IBR), Systems Requirements Review (SRR) and Preliminary Design Reveiw (PDR). Begin development of the first of a family of common displays for Naval Aviation which provides performance enhancements over current LCD and CRT technology for tactical cockpit and mission console displays. Planned enhancements include high brightness, high contrast, and custom viewing angle capabilities.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">AVCIP</td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.000</td> <td>0.000</td> <td>1.000</td> <td>1.500</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p style="margin-top: 10px;">Investigate High Value Return on Investment Candidates, addressing emergent avionics component critical readiness degraders and transformantional upgrade opportunities. Prioritize critical avionics performance, capability and obsolescence problems that require immediate attention. Pursue solutions to these problems based upon urgency, warfighting contribution and return on investment. Develop and test system solutions based on priority. Resources will cover program management, engineering, contracting and logistics efforts; design and development, logistics elements such as technical data, support equipment, provisioning, and training; prototypes; platform integration; and developmental/ operational testing. Critical avionics performance, capability and obsolescence problems are currently addressed by disrupting current programs of record or are delayed with negative fleet impact.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; height: 80px; margin-top: 10px;"></div>					COMMON AVIONICS DISPLAYS (CAD)	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	1.000	1.000	4.250	RDT&E Articles Quantity					AVCIP	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	1.000	1.500	RDT&E Articles Quantity						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000	RDT&E Articles Quantity				
COMMON AVIONICS DISPLAYS (CAD)	FY 04	FY 05	FY 06	FY 07																																													
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Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000																																													
RDT&E Articles Quantity																																																	

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 7 of 50)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604215N, Standards Development	PROJECT NUMBER AND NAME 0572, Joint Services/Navy Standard Avionics Components and Subsystems

C. PROGRAM CHANGE SUMMARY:

	FY 04	FY 05	FY 06	FY 07
Funding:				
Previous President's Budget:	39.739	46.096	61.838	34.166
Current BES/President's Budget	32.729	47.521	71.105	58.220
Total Adjustments	-7.010	1.425	9.267	24.054
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.485		
Congressional rescissions				
SBIR/STTR Transfer	-0.603			
Other adjustments		-0.090	8.597	23.365
Economic Assumptions	-0.037		0.670	0.689
Reprogrammings	-6.370			
Congressional increases		2.000		
Subtotal	-7.010	1.425	9.267	24.054

Schedule:

JTRS schedule reflects the acquisition plan for E-2 AHE as the Lead Platform and includes JTRS Integration Studies/Analyses. AV-8B and MH-60 milestone schedules were removed and are now provided within the Ref Def & Integration Analysis profile.

AWICS schedule changed due to delay in receipt of Requirements Documentation from OPNAV and redesignation of program to ACAT IVM.

AMC&D schedule reflects a delay in F/A-18 E/F and AV-8B MS III decision from 3Q/04 to 4Q/04 due to delay in receipt of OT results.

CNS/ATM schedule reflects a removal of KC-130J and E-2 platforms because they moved from forward fit to retrofit.

JMPS schedule reflects change in OT from 4Q/04 to 2Q/05 due to JMPS schedule slipping for F/A-18. JMPS developmental testing was added for version 1.2.3 , framework required

TAMMAC UPC software changes to support F/A-18.

VPF schedule slipped due to funding on hold at FY04 Midyear resulting in contract awarding later than anticipated.

Technical:

Not Applicable.

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EXHIBIT R-2a, RDT&E Project Justification								DATE:		February 2005	
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME					
RDT&E, N / BA-5			0604215N, Standards Development			0572, Joint Services/Navy Standard Avionics Components and Subsystems					
D. OTHER PROGRAM FUNDING SUMMARY:											
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>	
Common Avionics, APN	137.566	166.857	214.202	192.488	170.068	165.501	168.039	171.067	Continuing	Continuing	
PE 0702239A (Avionics Component Improvement Program Army)											
PE 0702239F (Avionics Component Improvement Program Air Force)											
E. ACQUISITION STRATEGY:											
<p>Advanced Mission Computer & Display (AMC&D) is utilizing a cost plus contract to McDonnell Douglas Corp (MDC), a wholly owned subsidiary of the Boeing Company, for EMD. MDC conducted a competition to potential suppliers and selected General Dynamics Information Systems for the AMC, Honeywell for Displays, and Harris for Fibre Channel Network Switch. The Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM) program is a systems of systems. The program will encompass the integration of various systems that are currently post-MS III. Systems will be procured utilizing existing contracts for integration on forward-fit and retrofit platforms to provide CNS/ATM functionality. Joint Tactical Radio System (JTRS) development is lead by the Air Force for the Airborne, Maritime and Fixed Site (AMF) program and by SPAWAR for the Multi-mode Information Distribution Systems (MIDS) JTRS and Common Link Integration Processing (CLIP) programs. The Navy is utilizing an Air Force contract vehicle for research and development of navy unique requirements and a Navy contract vehicle for integration studies and efforts on the lead platforms. TAMMAC Vector Product Format (VPF) is utilizing a sole source to Harris Corporation, to incorporate the VPF/Symbology data into the the existing TAMMAC FRP Hardware. Aircrew Wireless Internal Communication System (AWICS) is employing a sole source Phase III SBIR contract to procure a common system for use aboard multiple assault, logistics, Rotary Wing and Fixed Wing aircraft. GPWS/TAWS software modules will be developed by the existing PMA209 government software product team. The software modules will be integrated into the platform host computer by the platform's prime integrator. The Avionics Component Improvement Program (AvCIP) will annually compete candidate solutions according to criticality of operational contribution, technical risk, return on investment, and breadth of application. OPNAV N78 & N43, NAVAIR, NAVICP and the Fleet will participate in project selection for execution year allocation. The AvCIP IPT will monitor project execution and track return on investment using N43 Flying Hour Program metrics. Modification solutions include modular hardware, software and material upgrades. MFOQA will integrate a combination of existing aircraft hardware, ground support equipment, commercial off the shelf/government of the shelf hardware and software products. MFOQA program interfaces will be created to share data captured by the F-18 automated maintenance environment. H-60 health and usage monitoring system and existing data bases. A competitive contracting strategy will be used for procurement as needed. System integration efforts will be accomplished with prime vendors using existing contract vehicles for technical engineering services as much as possible. The Common Display program will be an AAP program with developmental efforts competitively awarded in FY07. Acquisition Decision Milestone will occur prior to award, and will be based upon results of acquisition planning and display prioritization for tactical cockpit displays and mission consoles.</p>											

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 9 of 50)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604215N, Standards Development			0572, Joint Services/Navy Standard Avionics Components and Subsystems						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Prime Hdw Develop, AMC&D OTA84	SS/845	Boeing, St. Louis, MO	54.516								54.516	54.516
Prime Hdw Develop, AMC&D EMD	SS/CP	Boeing, St. Louis, MO	134.956	4.858	11/04						139.814	139.814
Prime Hdw Develop, LPIA EMD	C/CS	BAE Systems, Wayne, NJ	7.264								7.264	7.264
Prime Hdw Develop, TAMMAC EMD	SS/CPIF	Boeing, St. Louis, MO	26.332								26.332	26.332
Prime Hdw Develop, CNS/ATM EMD	SS/BOA	Litton, Woodland Hills, CA	2.032								2.032	2.032
Prime Hdw Develop, CNS/ATM EMD	SS/CPIF	Rockwell, Cedar Rapids, IA	3.064								3.064	3.064
Prime Hdw Develop, CNS/ATM EMD	C/FPIF	BAE Systems, Greenlawn, NY	2.157								2.157	2.157
Prime Hdw Develop, MCAS EMD	SS/CPFF	BAE Systems, Greenlawn, NY	1.969								1.969	1.969
Prime Hdw Develop, VPF	SS/TBD	Harris, Melbourne, FL	2.995	0.671	12/04						3.666	3.666
Prime Hdw Develop, JMPS	SS/CPFF	Boeing, St. Louis, MO	0.341	0.340	01/05						0.681	0.681
Prime Hdw Develop, AWICS	SS/CPFF	MSSI, Germantown, MD	2.932	0.427	01/05						3.359	3.359
Prime Hdw Develop	TBD	TBD		0.474	01/05	3.623	12/05	5.850	12/06		9.947	9.947
Prime Hdw Develop, DISPLAYS	TBD	TBD						2.760	12/06		2.760	
Prime Hdw Develop, AMC&D	TBD	TBD				2.760	12/05	4.291	12/06	Continuing	Continuing	
											0.000	
Aircraft/Ship Integration	WX	Various	0.534	0.200	04/05	1.484	12/05	4.292	12/06	Continuing	Continuing	
Aircraft/Ship Integration, CNS/ATM	SS/FFP	MDC, St. Louis, MO		9.647	04/05	11.926	12/05	1.607	12/06	Continuing	Continuing	
Aircraft/Ship Integration, CNS/ATM	WX	NAWCAD Pax River, MD	6.980			3.356	12/05	1.279	12/06	Continuing	Continuing	
Aircraft/Ship Integration, JTRS	TBD	Northrup Grumman, Bethpage, NY		17.360	02/05	12.530	11/05	7.601	11/06	Continuing	Continuing	
Aircraft/Ship Integration, JTRS	WX	Various	0.677	1.699	11/04	12.390	11/05	8.051	11/06	Continuing	Continuing	
Systems Engineering	WX	Various	6.578	2.646	12/04	3.848	11/05	4.654	11/06	Continuing	Continuing	
Misc			62.527								62.527	
											0.000	
Subtotal Product Development			315.854	38.322		51.917		40.385		Continuing	Continuing	
Remarks:												

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 10 of 50)

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Exhibit R-2, RD TEN Budget Item Justification
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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604215N, Standards Development				0572, Joint Services/Navy Standard Avionics Components and Subsystems						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Developmental Test & Evaluation, AN	WX	NAWCAD Pax River, MD	4.783	0.226	01/05	0.093	11/05	0.664	11/06	Continuing	Continuing		
Developmental Test & Evaluation, AN	WX	NAWCWD CHINA LAKE, CA		0.100		0.192		0.998			1.290		
Developmental Test & Evaluation, VF	WX	Various		1.216	01/05						1.216		
Developmental Test & Evaluation	WX	Various	0.222	0.050	02/05	1.811	02/06	0.092	02/07	Continuing	Continuing		
Operational Test & Evaluation	WX	OPTEVFOR	1.695	0.450	01/05	0.131	02/06				2.276		
Test Assets	WX	Various	0.273			0.041	02/06				0.314		
Misc	WX	Various	22.162								22.162		
Subtotal T&E			29.135	2.042		2.268		1.754		Continuing	Continuing		
Remarks:													
Contractor Engineering Support	WX	Various	5.306	2.931	02/05	8.225	12/05	5.992	12/06	Continuing	Continuing		
Government Engineering Support	WX	Various	2.097	1.180	12/04	1.737	12/05	1.856	12/06	Continuing	Continuing		
Program Management Support	WX	Various	3.126	2.091	11/04	3.404	12/05	3.881	12/06	Continuing	Continuing		
Travel	WX	NAWCAD Pax River, MD	0.178	0.050	11/04	0.100	03/06	0.124	03/07	Continuing	Continuing		
Transportation											0.000		
SBIR Assessment											0.000		
Subtotal Management			10.707	6.252		13.466		11.853		Continuing	Continuing		
Remarks:													
Total Cost			382.710	47.521		71.105		58.220		Continuing	Continuing		
Remarks:													

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Exhibit R-2, RD TEN Budget Item Justification
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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
AMC&D																								February 2005								
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME									PROJECT NUMBER AND NAME														
RDT&E, N / BA-5									0604215N, Standards Development									0572, Joint Services/Navy Standard Avionics Components and Subsystems														
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones			Baseline System	▲	MS III (F/A-18) & AV-8B																											
Obsolescence Redesign Phase 1						△	MS III 8x10 AMPD								▽																	
Obso. Redesign Phase 1 Lab Testing															△			▽														
Obso. Redesign Phase 1 Flight Test															△				▽													
Obso. Phase 1 Fleet Release																			△													
Obsolescence Redesign Phase 2																	△						▽									
Obso. Redesign Phase 2 Lab Testing																					△			▽								
Obso. Redesign Phase 2 Flight Test																						△					▽					
Obso. Phase 2 Fleet Release																													△			
Test & Evaluation Milestones			DT-IIA-4																													
Development Test																																
Operational Test																																
Production Milestones																																
FRP FY04				◆		◇	8x10 AMPD																									

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 13 of 50)

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Exhibit R-2, RD TEN Budget Item Justification
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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																							DATE:									
JMPS																							February 2005									
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME													
RDT&E, N / BA-5									0604215N, Standards Development										0572, Joint Services/Navy Standard Avionics Components and Subsystems													
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones																																
Test & Evaluation Milestones																																
Development Test JMPS 1.1	DT																															
Development Test JMPS 1.2.3							DT																									
Operational Test							OT																									
Production Milestones																																
Deliveries																																

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Exhibit R-2, RD TEN Budget Item Justification
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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
CNS/ATM																								February 2005								
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME												
RDT&E, N / BA-5										0604215N, Standards Development										0572, Joint Services/Navy Standard Avionics Components and Subsystems												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
F/A-18E/F Integration																																
Mode S																																
RNP/RNAV																																
MH-60S Integration																																
Mode S																																
MH-60R Integration																																
Mode S																																
AH-1Z Integration																																
Mode S																																
UH-1Y Integration																																
Mode S																																
Production Milestones																																
Platform Procurements (S/W upgrades ONLY)																																
Deliveries																																

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CLASSIFICATION:

[illegible]

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UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
VPF																								February 2005								
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME												
RDT&E, N / BA-5										0604215N, Standards Development										0572, Joint Services/Navy Standard Avionics Components and Subsystems												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones													Fleet Introduction △																			
VPF Integration Study																																
Vector Product Development						SDR	SRR	PDR	CDR																							
Software VPF S/W to H/W Integration																																
Test & Evaluation Milestones																																
Development Test/ Operational Testing													DT/OT ▬																			
Production Milestones																																
Deliveries																																

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CLASSIFICATION:

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R-1 SHOPPING LIST - Item No. 86

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UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
AWICS																								February 2005								
APPROPRIATION/BUDGET ACTIVITY								PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME												
RDT&E, N / BA-5								0604215N, Standards Development												0572, Joint Services/Navy Standard Avionics Components and Subsystems												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones							MS C																									
Contract Award			SBIR PHASE II					LRIP I																								
Test & Evaluation Milestones																																
Developmental Test (DT-B)																																
Developmental Test (DT-C)																																
DT Report																																
Production Milestones																																
DT-B																																
LRIP 1 FY04																																
Procurements																																
Deliveries																																

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** EDM units will support DT-B/C efforts.
LRIP units will support IOC and fielding schedule.

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CLASSIFICATION:

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Exhibit R-2, RD TEN Budget Item Justification
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CLASSIFICATION:

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:				February 2005					
GPWS/TAWS																																	
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME													
RDT&E, N / BA-5										0604215N, Standards Development										0572, Joint Services/Navy Standard Avionics Components and Subsystems													
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
Acquisition Milestones																																	
Government Software Development																																	
Test & Evaluation Milestones																																	
Developmental Test																																	
Operational Test																																	
Production Milestones																																	
H-60 IOC																																	
H-1 IOC																																	
Deliveries																																	

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CLASSIFICATION:

[illegible]

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:				February 2005							
MFOQA																																			
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-5												0604215N, Standards Development												0572, Joint Services/Navy Standard Avionics Components and Subsystems											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4							
Acquisition Milestones												PDR △	CDR △				H-60 TIM △	T-45 TIM △	H-60 TIM △	V-22 TIM △			V-22 TIM △												
Core Capability									Development/Deficiency Correction																										
F/A-18E/F Integration								Development				Integration				DT				OT															
MH-60R/S Integration													Development				Integration				DT				FOT&E										
V-22B Integration																	Development				Integration				DT				FOT&E						
T-45C Integration																	Dev	Integ	DT		FOT&E														
Test & Evaluation Milestones																																			
Developmental Test																																			
Operational Test																																			
Production Milestones																																			
Deliveries																																			

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Exhibit R-2, RDTE Budget Item Justification
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CLASSIFICATION:

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
COMMON DISPLAYS																								February 2005								
APPROPRIATION/BUDGET ACTIVITY								PROGRAM ELEMENT NUMBER AND NAME								PROJECT NUMBER AND NAME																
RDT&E, N / BA-5								0604215N, Standards Development								0572, Joint Services/Navy Standard Avionics Components and Subsystems																
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones													ADR											ADR								
Tech Demo																																
Contract Events																																
Engineering Events																																
ILS Events																																
Test & Evaluation Milestones																																
Test Activities																																
Production Milestones																																
Deliveries																																

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CLASSIFICATION:

[illegible]

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UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604215N, Standards Development				PROJECT NUMBER AND NAME 1857, Calibration Standards			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	4.213	5.476	1.365	1.658	1.711	1.744	1.787	1.831
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Project 1857, Calibration Standards: This project is a Navy-wide program to develop required calibration standards (hardware) in all major measurement technology areas in support of Navy Weapons systems, ground and air, throughout the Fleet. It funds Navy lead-service responsibilities in the DOD and Joint Services Metrology Research and Development program. This project supports the military requirement to verify the performance of all test systems used to validate the operation of Navy Weapon Systems with calibration standards traceable to the National Institute of Standards and Technology.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604215N Standards Development	PROJECT NUMBER AND NAME 1857, Calibration Standards		

B. Accomplishments/Planned Program

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	4.213			
RDT&E Articles Quantity				

FY-2004 Accomplishments: (\$ 2.300) Completed 8 calibration standards (hardware) in support of chemical biological standards, common metrology calibration, modeling and simulation projects, and new technology for reduced crew size initiatives. (\$.373) Continuing development of 2 standards to support missile guidance systems and radar cross section measurements. (\$ 1.540) Started development of 5 new standards to support chemical biological detectors, laser target designators and rangefinders (1.5 µm), reduce shipboard crew size and calibration costs, and increasing shipboard calibration support.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		5.476		
RDT&E Articles Quantity				

FY 2005 Plan: (\$.374 Complete 3 calibration standards (hardware) in support of chemical biological sensors, radar cross section measurements, and reduced crew size initiatives. (\$.903) Continue development of 4 standards to support missile guidance systems, common metrology calibration, eye safe laser target designators and rangefinders (1.5 µm), and reduce crew size. (\$4.199) Congressional Add Navy/Marine Corps advanced measurement standards R&D (note: only for the development of advanced measurement standards and meteorology systems to support the Navy and Marine Corps testing needs.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			1.365	
RDT&E Articles Quantity				

FY 2006 Plan: (\$ 1.365) Complete 4 calibration standards (hardware) in support of missile guidance systems, reduce crew size initiatives, and laser target designators systems, and increasing shipboard calibration support.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604215N Standards Development	PROJECT NUMBER AND NAME 1857, Calibration Standards		
B. Accomplishments/Planned Program (Cont.)				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost				1.658
RDT&E Articles Quantity				
<p>FY 2007 Plan: (U) (\$.234) Complete 1 calibration standard (hardware) in support of electrical calibration standards. (U) (\$ 0) No Continued standards development. (U) (\$ 1.424) Begin development of 6 new calibration standards (hardware) in support of chemical biological detection systems, reduce crew size initiatives, and shipboard communication systems.</p>				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604215N Standards Development	PROJECT NUMBER AND NAME 1857, Calibration Standards		

C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
Funding:				
Previous President's Budget: (FY 05 Pres Controls)	4,219.000	1,359.000	1,366.000	1,652.000
Current BES/: (FY06/07 President's Budget Controls)	4,213.000	5,476.000	1,365.000	1,658.000
Total Adjustments	-6.000	4,117.000	-1.000	6.000
Summary of Adjustments				
Section 8094 Mgmt Impr Issue 68041	0.000	0.000	0.000	0.000
Sec 8126 Efficiencies/Revisions Issue 68066	0.000	0.000	0.000	0.000
Navy Metrology	0.000	0.000	0.000	0.000
Congressional Add	0.000	4,199.000	0.000	0.000
WCF - R&D - NSWC PBD 430	0.000	0.000	0.000	0.000
PBD 426 Rates - NSWC	0.000	0.000	0.000	0.000
PBD 604 Inflation/Recession	0.000	-82.000	-1.000	6.000
PBD 604 non purchase inflation	-3.000	0.000	0.000	0.000
Cancelled Account	-3.000	0.000	0.000	0.000
Offset for CIVPERs FY04 Payraise	0.000	0.000	0.000	0.000
FY05 ITR RDTEN Balancing	0.000	0.000	0.000	0.000
Subtotal	-6.000	4117.000	-1.000	6.000

Schedule:

Not applicable

Technical:

Not applicable

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604215N Standards Development			PROJECT NUMBER AND NAME 1857, Calibration Standards			

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
Not Applicable										

E. ACQUISITION STRATEGY: *

Not Applicable

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604215N, Standards Development			PROJECT NUMBER AND NAME 1857, Calibration Standards						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	WX	NSWC, Corona Division	3.499	5.200		0.985		1.348			9.684	
Ancillary Hardware Development											0.000	
Component Development											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering											0.000	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			3.499	5.200		0.985		1.348		0.000	11.032	
Remarks:												
Development Support											0.000	
Software Development											0.000	
Training Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-5			PROGRAM ELEMENT 0604215N, Standards Development			PROJECT NUMBER AND NAME 1857, Calibration Standards						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support			0.200	0.120		0.125		0.130			0.575	
Government Engineering Support			0.462	0.126		0.220		0.150			0.958	
Program Management Support											0.000	
Travel			0.052	0.030		0.035		0.030			0.147	
Labor (Research Personnel)											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.714	0.276		0.380		0.310		0.000	1.680	
Remarks:												
Total Cost			4.213	5.476		1.365		1.658		0.000	12.712	
Remarks:												

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604215N Standard Development			PROJECT NUMBER AND NAME 2311 Navy Stores Planning and Weaponeering Module			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	7.456	9.349	11.077	13.450	13.408	14.655	14.710	16.022
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Project 2311, Stores Planning and Weaponeering Module: The Naval Aircraft Weaponeering Components (NAWC) project, now referred to as the Weaponeering and Stores Planning (WASP) components, are integrated software products that allow pilots to determine the best combinations of weapons and delivery conditions to achieve the desired level of target damage, eliminate weapon delivery solutions that violate aircraft T/M/S specific safety-of-flight envelopes, and perform detailed weapons employment planning. WASP is approved by N78 as a permanent flight clearance system for the F/A-18 A, A+, B, C, D and D(RC) aircraft, and for all future aircraft T/M/S in the Joint Mission Planning System (JMPS). As a flight clearance system, WASP components will alert pilots if their planned weapon release conditions will result in bomb-to-bomb collisions, bomb-to-aircraft collisions, aircraft overstress, or excessive risk of aircraft loss/damage in the event of fuze early bursts. Weaponeering capabilities are fundamental requirements for Interdiction, Armed RECCE and Close Air Support mission planning, therefore WASP product availability is critical to successful Post-Joint Mission Planning System (JMPS) Combat 1 OT&E. The WASP product encompasses a multitude of GOTS/COTS software components and tools (aircraft target maneuver simulations, weapon flyout models, target probability of damage calculators, etc.), which are delivered as new targets are identified, emergent requirements for new aircraft T/M/S, stores and weapons are approved by N78, and new flight clearances and flight restrictions issued by NAVAIRSYSCOM. WASP components are being delivered on an annual basis starting with v1.0 in December CY03.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME 0604215N Standards Development	PROJECT NUMBER AND NAME 2311 Navy Stores Planning and Weaponneering Module		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.523	0.716	0.896	0.976
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 5px;"> Program Management - In FY04 Performed Weaponneering and Stores Planning (WASP) project management, which includes contracting support (providing contract administration, preparing contract packages for award.) and providing financial support (accept, obligate, commit, and track funding). Provided travel for WASP Government personnel. Provided on-site contractor occupancy fees, fee for service/direct contract processing fees, SBIR. Continue performing project management support for this program throughout the FYDP. </div>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	5.453	4.082	4.786	4.914
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 5px;"> Software Development - Develop new software for WASP components V1.1, V2.0, V2.1 and V3.0 to support addition of F/A-18EF, AV-8B and JSF. Integrate WASP components into the Joint Mission Planning System (JMPS). Develop new aircraft configuration, aircraft loading, weapon optimization, store release and delivery planning components for F/A-18 A-F, AV-8B and JSF. Provide NMCI seats and software licenses for development. Provide CM, Sys Admin, QA, documentation, metrics and Risk Management for WASP. Integrate new JMEM methodologies into WASP; Bridge Analysis System (BAS), Building Analysis Module (BAM). Integrate new guided weapon (GBU) penetration and flyout models into WASP. Integrate WASP with JSOW/JDAM/SLAM-ER mission planning systems. </div>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.101	0.232	0.243	0.256
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 5px;"> Compliance with external directives - Provide Weaponneering and Stores Planning (WASP) components with the means to ensure all software (to include internally developed software, externally developed GOTS components and COTS products) complies with DoN and DoD software mandates and directives. These include ISNS (IT-21), DITSCAP C&A, NMCI, DII COE, D-30 and FAM. All Fleet released software must comply with DoN and DoD software directives or will not be allowed to run on ship LANs or NMCI. </div>				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME 0604215N Standards Development	PROJECT NUMBER AND NAME 2311 Navy Stores Planning and Weaponengineering Module		
B. Accomplishments/Planned Program (Cont.)				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.178	0.807	0.889	0.889
RDT&E Articles Quantity				
Systems Engineering - Provide Systems Engineering support to the Weaponengineering and Stores Planning (WASP) development effort. Provide domain engineering support for weapons separation, aircraft loads, flutter, fuzing, safe escape for application to WASP. Provide for WASP Help Desk support at SPAWAR. Provide government Joint Munitions Effectiveness Manual (JMEM) engineering support (JMEM Subject Matter Experts) for integration of new JMEM capabilities into WASP. Provide analysis of new requirements, allocation of requirements, design oversight, and life cycle management of the WASP program.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.099	2.570	3.273	3.436
RDT&E Articles Quantity				
Test and Evaluation - Provide test and evaluation for unit and system level testing; functional qualification testing; safety of flight certification testing; integration and standards compliance testing for WASP versions (WASP V1.1, V2.0, V2.1 and WASP V3.0). Provide T&E support for guided weapons and Joint Munitions Effectiveness Manual (JMEM) accreditation.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.102	0.942	0.990	1.039
RDT&E Articles Quantity				
WASP Modeling and Simulation Support - Acquire GFI safe escape and guided weapon components for integration into WASP. Acquire aircraft performance models and unguided weapon flyout models for integration into WASP. Develop updates to the NAVAIR Aircraft Target Area Maneuvers Simulation (ATAMS), Common Unguided Weapons Computational Engine (CUWCE), Safe Escape Automation Layer (SEAL), and the Probability of Aircraft Tactical Hazard (PATH) models. Develop updates to the joint owned Guided Weapons Trajectory Software (GWTS).				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost				1.940
RDT&E Articles Quantity				
JATDI/ Information Technology Development/ NAVAIR IT - Additional funding was erroneously entered in the Stores Planning and Weaponengineering Module for the OSD 06 Budget Cycle. The correct Program Element is 0605013N and the correct Project Unit is 2903. Per sponsor, the funds will be properly placed under this program during PR07.				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
			February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N / BA-5	0604215N Standard Development	2311 Navy Stores Planning and Weaponengineering Module		
C. PROGRAM CHANGE SUMMARY:				
Funding:	FY 2004	FY 2005	FY 2006	FY 2007
Previous President's Budget:	4.960	9.448	7.423	7.863
Current BES/President's Budget	7.456	9.349	11.077	13.450
Total Adjustments	2.496	-0.099	3.654	5.587
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.086		
Congressional rescissions				
SBIR/STTR Transfer				
Other adjustments		-0.013	3.543	5.44
Economic Assumptions			0.111	0.147
Reprogrammings	2.496			
Congressional increases				
Subtotal	2.496	-0.099	3.654	5.587
Schedule: Slip in WASP V1 release from 2Q 2003 to 4Q 2003:				
As a CNO approved alternative permanent flight clearance system for the F/A-18 A-D, the WASP application mirrors the release and update cycle of Volume IV of the F/A-18A_D Tactical Manuals (TACMAN). Signature and release of Urgent Interim Change 2 (UIC 2) to Vol IV of the TACMAN was expected to happen such that WASP would be able to implement changes in the software prior to release of Version 1.0. The OPNAV sponsor concurred that WASP should implement UIC 2 if possible. However, delays in the release of UIC 2 resulted in a corresponding delay of the release of WASP V1.0 from 2Q 2003 to 4Q 2003 with only minimal incorporation of UIC 2.				
Insertion of V1.1 into schedule with delivery in 1Q 2005:				
WASP V1.1 was inserted in the schedule to implement full Change 5 functionality in addition to requirements that were deferred from WASP V1.0.				
6 month delay in IOC of WASP V1.0 due to UIC 2 have impacted schedule for V1.1 and V2.0. V1.1 to field in 1Q FY05 and V2.0 to field in 1Q FY06.				
Technical: Not applicable				

R-1 SHOPPING LIST - Item No. 86

UNCLASSIFIED

Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 41 of 50)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604215N Standards Development			PROJECT NUMBER AND NAME 2311 Navy Stores Planning and Weaponneering Module				

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
BLI 287600 TAC A/C Mission Planning System (OPN)	8.539	9.042	7.857	8.338	8.668	8.916	9.100	9.290	Continuing	
PE2806F Air Force Mission Support System Related RDT&E:	51.645	136.701	143.154	196.749	148.541	96.314	Continuing	Continuing	Continuing	
P.E. 0604231N (Mission Planning)										

E. ACQUISITION STRATEGY:

Weaponeering and Stores Planning (WASP) products, delivered annually, are developed in-house by NAVAIR (NAWCAD and NAWCWD) engineers. NAWCAD provides expertise in areas of management, systems engineering, software engineering and aircraft safety-of-flight (air-vehicle stores compatibility, weapons separation, aircraft aerodynamic flutter, ground/flight loads, authorized fuze arm times, aircraft safe escape). NAWCAD also provides weapons separation test pilots as WASP operational advisors. NAWCWD provides provides expertise in areas of guided weapons employment and weapons effects against targets. The various government teams (software development, functional qualification testing and certification/accreditation test) are supplemented with contract labor procured predominately through fixed-price GSA or BPA contracts.

R-1 SHOPPING LIST - Item No. 86

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604215N Standard Development			PROJECT NUMBER AND NAME 2311 Navy Stores Planning and Weaponneering Module						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Software Development	WX	NAWCAD, PAX RIVER, MD	13.476	1.301	11/04	1.532	11/05	1.596	11/06	Continuing	Continuing	
Primary Software Development	GSA/FP	Various	15.314	2.782	11/04	3.254	11/05	3.318	11/06	Continuing	Continuing	
Aircraft Integration												
Ship Integration												
Ship Suitability												
Systems Engineering	WX	NAWCAD, PAX RIVER, MD	5.484	0.807	11/04	0.889	11/05	0.889	11/06	Continuing	Continuing	
Training Development												
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			34.274	4.890		5.675		5.803		Continuing	Continuing	
Remarks:												
Development Support											0.000	
Software Development	TBD	TBD	0.000	0.000		0.000		1.290	12/06	6.450	7.740	7.740
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	0.000		0.000		1.290		6.450	7.740	
Remarks: JATDI/ Information Technology Development/ NAVAIR IT - Additional funding was erroneously entered in the Stores Planning and Weaponneering Module for the OSD 06 Budget Cycle. The correct Program Element is 0605013N and the correct Project Unit is 2903. Per sponsor, the funds will be properly placed under this program during PR07.												

R-1 SHOPPING LIST - Item No. 86

UNCLASSIFIED

Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 43 of 50)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604215N Standard Development			PROJECT NUMBER AND NAME 2311 Navy Stores Planning and Weaponing Module						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWCAD, PAX RIVER, MD	7.034	2.570	11/04	3.273	11/05	3.436	11/06	Continuing	Continuing	
Developmental Test & Evaluation	WR	TBD						0.650	11/06	1.300	1.950	
Operational Test & Evaluation												
Live Fire Test & Evaluation												
Test Assets												
Tooling												
GFE												
Award Fees												
Subtotal T&E			7.034	2.570		3.273		4.086		Continuing	Continuing	
<p>Remarks: JATDI/ Information Technology Development/ NAVAIR IT - Additional funding was erroneously entered in the Stores Planning and Weaponing Module for the OSD 06 Budget Cycle. The correct Program Element is 0605013N and the correct Project Unit is 2903. Per sponsor, the funds will be properly placed under this program during PR07.</p>												
Government Engineering Support	WX	NAWCWD, CHLKE, CA	0.627	0.333	11/04	0.386	11/05	0.412	11/06	Continuing	Continuing	
Government Engineering Support	WR	NAWCAD, PAX RIVER, MD	1.167	0.801	11/04	0.847	11/05	0.883	11/06	Continuing	Continuing	
Program Management Support	WX	NAWCAD, PAX RIVER, MD	2.561	0.735	11/04	0.856	11/05	0.936	11/06	Continuing	Continuing	
Travel	WX	NAWCAD, PAX RIVER, MD	1.028	0.020	11/04	0.040	11/05	0.040	11/06	Continuing	Continuing	
Transportation												
SBIR Assessment												
Subtotal Management			5.383	1.889		2.129		2.271		Continuing	Continuing	
<p>Remarks:</p>												
Total Cost			46.691	9.349		11.077		13.450		Continuing	Continuing	
<p>Remarks:</p>												

R-1 SHOPPING LIST - Item No. 86

UNCLASSIFIED

Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 44 of 50)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																										DATE:						
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME												
RDT&E, N / BA-5										0604215N Standards Development										2311 Navy Stores Planning and Weaponneering Module												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones																																
WASP V.1 Release (F/A-18A/B/C/D)	△																															
WASP V.1.1 Release (F/A-18A/B/C/D)					△																											
WASP V.2 Release (F/A-18A/B/C/D/E/F)/JMPS Integration									△																							
WASP V2.1 Release (F/A18A/B/C/D/E/F)													△																			
WASP V3 Release (F/A18A/B/C/D/E/F & AV-8B)																△																
WASP V3.1 Release (F/A18A/B/C/D/E/F & AV-8B)																				△												
WASP V4 Release (F/A18A/B/C/D/E/F, AV-8B, JSF)																										△						
Test & Evaluation Milestones																																
WASP V.1.1 Cert Test (F/A-18A/B/C/D)																																
WASP V.2 FQT & Cert Test (F/A-18A/B/C/D/E/F)																																
WASP V2.1 FQT & Cert Test (F/A-18A/B/C/D/E/F)																																
WASP V3 FQT & Cert Test (F/A-18A/B/C/D/E/F)																																
WASP V3.1 FQT & Cert Test (F/A-18A/B/C/D/E/F & AV-8B)																																
WASP V4 FQT & Cert Test (F/A-18A/B/C/D/E/F, AV-8B, JSF)																																
Production Milestones																																
WASP V.1.1 Dev (F/A-18A/B/C/D)																																
WASP V.2 Development (F/A-18A/B/C/D/E/F)																																
WASP V2.1 Development (F/A-18A/B/C/D/E/F)																																
WASP V3 Development (F/A-18A/B/C/D/E/F)																																
WASP V3.1 Development (F/A-18A/B/C/D/E/F & AV-8B)																																
WASP V4 Development (F/A-18A/B/C/D/E/F, AV-8B, JSF)																																
Deliveries																																

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E, N/BA-5	0604215N Standard Development				2311 Navy Stores Planning and Weaponeeing Module			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Acquisition Milestones								
WASP V.1 Release (F/A-18A/B/C/D)	1Q							
WASP V.1.1 Release (F/A-18A/B/C/D)		1Q						
WASP V.2 Release (F/A-18A/B/C/D/E/F)JMPS Integration			1Q					
WASP V2.1 Release (F/A-18A/B/C/D/E/F)				2Q				
WASP V3 Release (F/A-18A/B/C/D/E/F & AV-8B)								
WASP V3.1 Release (F/A-18A/B/C/D/E/F & AV-8B)								
WASP V4 Release (F/A-18A/B/C/D/E/F,AV-8B, JSF)								
Technical Evaluation (TECHEVAL)								
WASP V.1.1 Cert Test (F/A-18A/B/C/D)	3Q-4Q							
WASP V.2 FQT & Cert Test(F/A-18A/B/C/D/E/F)		3Q-4Q						
WASP V2.1 FQT & Cert Test(F/A-18A/B/C/D/E/F)			4Q	1Q				
WASP V3 FQT & Cert Test(F/A-18A/B/C/D/E/F & AV-8B))				4Q				
WASP V3.1 FQT & Cert Test(F/A-18A/B/C/D/E/F & AV-8B)								
WASP V4 FQT & Cert Test(F/A-18A/B/C/D/E/F,AV-8B, JSF)								
Production Milestones								
WASP v1.1 Dev (F/A-18A/B/C/D)	1Q-3Q							
WASP V.2 Dev (F/A-18A/B/C/D/E/F)	2Q-4Q	1Q-2Q						
WASP V2.1 Dev (F/A-18A/B/C/D/E/F)		3Q-4Q	1Q-3Q					
WASP V3 Dev (F/A-18A/B/C/D/E/F & AV-8B)			2Q-4Q	1Q-4Q				
WASP V3.1 Dev (F/A-18A/B/C/D/E/F & AV-8B)								
WASP V4 Dev (F/A-18A/B/C/D/E/F & AV-8B)								

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UNCLASSIFIED

Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 46 of 50)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604215N Standard Development				PROJECT NUMBER AND NAME 2312 Common Helicopters			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	0.948	0.759	0.761	0.945	0.961	0.981	1.002	1.022
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Project 2312, Common Helicopters: Automated mission planning systems to date have been developing targeting planning requirements for fixed-wing aircraft, while the unique planning requirements for helicopters have not been addressed. The unique and enhanced automated mission planning requirements that must be developed and implemented for helicopters include: data loading, an enhanced route editor (serpentine routing, hover, etc.) manipulation of higher fidelity (smaller scale) maps and imagery, enhanced performance tools (performance in and out of ground effect, performance degradation due to atmospheric conditions & elevation), and enhanced fidelity of landing zone, and threat analyses. The following type/model/series aircraft are supported by PE: AH-1W, UH-1N, H-46D/E, H-53D/E, H-60B/F/H/R/S, and V-22. The developed common helicopter functionality will initially be implemented in Naval Portable Flight Planning Software (N-PFPS) then migrated to JMPS. Subsequent common helicopter functionality will be developed for implementation in the Joint Mission Planning Segment (JMPS) after JMPS initial fielding.

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 47 of 50)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604215N Standard Development	PROJECT NUMBER AND NAME 2312 Common Helicopters																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.948</td><td style="text-align: center;">0.759</td><td style="text-align: center;">0.761</td><td style="text-align: center;">0.945</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.948	0.759	0.761	0.945	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.948	0.759	0.761	0.945															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; height: 60px; margin-top: 10px;"></div>																			
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	FY 04	FY 05	FY 06	FY 07															
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost																			
RDT&E Articles Quantity																			

R-1 SHOPPING LIST - Item No. 86

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																												
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604215N Standard Development	PROJECT NUMBER AND NAME 2312 Common Helicopters																																																																													
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;"></th> <th style="text-align: right; width: 10%;">FY 2004</th> <th style="text-align: right; width: 10%;">FY 2005</th> <th style="text-align: right; width: 10%;">FY 2006</th> <th style="text-align: right; width: 10%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Previous President's Budget:</td> <td style="text-align: right;">0.949</td> <td style="text-align: right;">0.772</td> <td style="text-align: right;">0.795</td> <td style="text-align: right;">0.981</td> </tr> <tr> <td>Current BES/President's Budget</td> <td style="text-align: right;">0.948</td> <td style="text-align: right;">0.759</td> <td style="text-align: right;">0.761</td> <td style="text-align: right;">0.945</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-0.001</td> <td style="text-align: right; border-top: 1px solid black;">-0.013</td> <td style="text-align: right; border-top: 1px solid black;">-0.034</td> <td style="text-align: right; border-top: 1px solid black;">-0.036</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional program reductions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional undistributed reductions</td> <td></td> <td style="text-align: right;">-0.012</td> <td></td> <td></td> </tr> <tr> <td> Congressional rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> SBIR/STTR Transfer</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Other adjustments</td> <td></td> <td style="text-align: right;">-0.001</td> <td style="text-align: right;">-0.041</td> <td style="text-align: right;">-0.048</td> </tr> <tr> <td> Economic Assumptions</td> <td></td> <td></td> <td style="text-align: right;">0.007</td> <td style="text-align: right;">0.012</td> </tr> <tr> <td> Reprogrammings</td> <td style="text-align: right;">-0.001</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional increases</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Subtotal</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.001</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.013</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.034</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.036</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule: Not Applicable</p> <p style="margin-top: 20px;">Technical: Not Applicable</p>						FY 2004	FY 2005	FY 2006	FY 2007	Funding:					Previous President's Budget:	0.949	0.772	0.795	0.981	Current BES/President's Budget	0.948	0.759	0.761	0.945	Total Adjustments	-0.001	-0.013	-0.034	-0.036	Summary of Adjustments					Congressional program reductions					Congressional undistributed reductions		-0.012			Congressional rescissions					SBIR/STTR Transfer					Other adjustments		-0.001	-0.041	-0.048	Economic Assumptions			0.007	0.012	Reprogrammings	-0.001				Congressional increases					Subtotal	-0.001	-0.013	-0.034	-0.036
	FY 2004	FY 2005	FY 2006	FY 2007																																																																											
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R-1 SHOPPING LIST - Item No. 86

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604215N Standard Development			PROJECT NUMBER AND NAME 2312 Common Helicopters					
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
BLI 287600 TAC A/C Mission Planning System (OPN)	8.539	9.042	7.857	8.338	8.668	8.916	9.100	9.290	Continuing	Continuing
 E. ACQUISITION STRATEGY: N/A										

R-1 SHOPPING LIST - Item No. 86

UNCLASSIFIED

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2, RDT&E Budget Item Justification							DATE:	
							February 2005	
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE			
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					0604216N (U) Multi-Mission Helicopter Upgrade Development			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	81.906	81.321	48.144	18.920	14.345	0.000	0.000	0.000
1707 MH-60R Development	81.906	78.005	48.144	18.920	14.345	0.000	0.000	0.000
9548 AQS-22 Airborne Low Frequency Sonar (ALFS)		1.632						
9549 Multi-Mission Helicopter Upgrade Dev		1.684						
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: From program inception through FY99, Project H1707 was funded under P.E. 0604212N, ASW & Other Helo Development, Project Unit H1707. 1707 - The MH-60R Multi-Mission Helicopter provides battle group protection and adds significant capability in coastal littorals and regional conflicts. The MH-60R Multi-Mission Helicopter represents a significant avionics improvement to the H-60 series helicopters by enhancing primary mission areas of Undersea Warfare (USW) and Surface Warfare (SUW). Airborne Low Frequency Sonar (ALFS) will be added to enhance the existing acoustic suite. An added Multi-Mode Radar includes an Inverse Synthetic Aperture Radar mode (ISAR) (permits stand-off classification of hostile threats). An improved Electronics Surveillance Measures system (ESM) will enable passive detection and targeting of radar sources not currently detectable. Integration of Tactical Common Data Link (TCDL) , will be incorporated into the MH-60R as part of Block-I. 9548 - The MH-60R Multi-Mission Helicopter AQS-22 Airborne Low Frequency Sonar(ALFS), (Congressional Add). ALFS is the primary Undersea Warfare (USW) sensor of the Multi-Mission Helicopter. 9549 - The MH-60R Multi-Mission Helicopter Legacy Subsystems Improvement, (Congressional Add).								

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 Exhibit R-2a, RDTEN Project Justification
 (Exhibit R-2a, page 1 of 21)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5				PROJECT NUMBER AND NAME 1707 LAMPS III IMP				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	81.906	78.005	48.144	18.920	14.345	0.000	0.000	0.000
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

From program inception through FY99, the program was funded under P.E. 0604212N, ASW & Other Helo Development, Project Unit 1707.

The MH-60R Multi-Mission Helicopter provides battle group protection and adds significant capability in coastal littorals and regional conflicts. The MH-60R Multi-Mission Helicopter represents a significant avionics improvement to the H-60 series helicopters by enhancing primary mission areas of Undersea Warfare (USW) and Surface Warfare (SUW). Airborne Low Frequency Sonar (ALFS) will be added to enhance the existing acoustic suite. An added Multi-Mode Radar includes an Inverse Synthetic Aperture Radar mode (ISAR) (permits stand-off classification of hostile threats). An improved Electronics Surveillance Measures system (ESM) will enable passive detection and targeting of radar sources not currently detectable. Integration of Tactical Common Data Link (TCDL) , will be incorporated into the MH-60R as part of Block-I.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROJECT NUMBER AND NAME 1707 LAMPS III IMP		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	29.138	8.800	0.000	0.000
RDT&E Articles Quantity				
Avionics system software and hardware development and integration to include: RADAR mode development, ESM development, acoustics and post processing, mission planning, weapons, stores and self defense, data fusion, logistics products including Integrated Electronic Technical Manuals, boresighting equipment and integration. Support aircraft integration, problem investigation and resolution, lab management and upgrades, hardware investigations, and repairs in support of the test program. ILS support, Program Management support, Risk Management Board support, and subvendor support.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	6.468	0.926	0.000	0.000
RDT&E Articles Quantity				
Completed and delivered Airframe test articles (FY02). Airframe test articles engineering support, GFE repair, and risk management board support. Procurement of Digital Mock-up and weight reduction studies, Integrated Self Detection integration development and vibration testing.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	5.251	4.315	0.000	0.000
RDT&E Articles Quantity				
Avionics engineering specialists, Integrated Logistics Support, Government Furnished Equipment (GFE), Contractor Services Support, System Engineering, Program Management, Travel as required to support the MH-60R developmental program, test activities (TECHEVAL), and Small Business Innovation Research (SBIR).				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	23.549	3.564	0.000	0.000
RDT&E Articles Quantity				
MH-60R Mission Avionics testing.				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROJECT NUMBER AND NAME 1707 LAMPS III IMP		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.400	0.000	0.000
RDT&E Articles Quantity				
Avionics Acoustics (including ALFS) processor development, integration and testing. Correct deficiencies encountered during testing and integration in support of DT-IID.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	12.200	40.600	25.000	3.600
RDT&E Articles Quantity				
Avionics Block I Upgrade software and hardware development and integration effort to include: digital torpedo, integrated Satellite Communication Demand Assign Multiple Access Waveform (SATCOM DAMA), low light Multi-Spectral Targeting System Forward Looking Infrared (MTS FLIR) system, RADAR Low Probability of Intercept (LPI) mode development, Link 16, KU Band Tactical Common Data Link (TCDL) and Joint Mission Planning System (JMPS) migration.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.300	2.600	0.400	
RDT&E Articles Quantity				
Airframe Block I Upgrade software and hardware development and integration for the right hand extended pylon.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	6.800	6.244	4.820
RDT&E Articles Quantity				
Avionics Block I Upgrade engineering specialties, Integrated Logistics Support, Contractor Services Support, Systems Engineering, and Program Management as required.				

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Exhibit R-2a, RDTE Project Justification
(Exhibit R-2a, page 4 of 21)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROJECT NUMBER AND NAME 1707 LAMPS III IMP		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	5.000	10.000	16.500	10.500
RDT&E Articles Quantity				
Avionics Mission Block I Upgrade Mission Testing and Evaluation efforts.				

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Exhibit R-2a, RDTEEN Project Justification
(Exhibit R-2a, page 5 of 21)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604216N (U) Multi-Mission Helicopter Upgrade Dev	PROJECT NUMBER AND NAME 1707 LAMPS III IMP		

C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
Funding:				
Previous President's Budget:	76.141	78.757	48.224	18.912
Current BES/President's Budget	81.906	78.005	48.144	18.920
Total Adjustments	5.765	-0.752	-0.080	0.008
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.694		
Congressional rescissions				
SBIR/STTR Transfer	-1.576			
Other Adjustments		-0.058	-0.579	-0.396
Economic Assumptions	-0.071		0.499	0.404
Reprogrammings	7.412			
Congressional increases				
Subtotal	5.765	-0.752	-0.080	0.008

Schedule:

DT-IID changed from 1Q -3Q FY03 to 1Q - 4Q FY04, and OT-IIA changed from 2Q - 3Q FY03 to 1Q - 2Q FY05, TECHEVAL changed from 1Q - 3Q FY04 to 1Q - 2Q FY05, OTRR changed from 3Q FY04 to 2Q - 3Q FY05, OPEVAL changed from 3Q FY04 through 1Q FY05 to 3Q - 4Q FY05, IOC changed from 4Q FY05 to 1Q FY06, and Milestone III (MS-III) was changed from 2Q/05 to 2Q/06 in accordance with the approved Acquisition Program Baseline (APB) dated 07 May 2004. The current schedule also reflects changes to Block-I test schedule: DT-IIIA changed from 2Q FY04 through 3Q FY06 to 2Q - 3Q FY06, OT-IIIA changed from 4Q FY06 through 2Q FY07 to 4Q FY06 to 1Q FY07 and DT-IIIB starting in 1Q - 2Q FY07 and OT-IIIB 2Q - 3Q FY07 was erroneously dropped from the schedule profile in PB05 submit. Block I has been changed from Block I Upgrade DT/OTIIIA to Block I Upgrade DT/OTIII A/B.

Technical:

Not Applicable.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005																																			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME PE 0604216N (U) Multi-Mission Helicopter Upgrade Dev			PROJECT NUMBER AND NAME 1707 LAMPS III IMP																																					
<p>D. OTHER PROGRAM FUNDING SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 30%;"><u>Line Item No. & Name</u></th> <th style="text-align: right; width: 5%;"><u>FY 2004</u></th> <th style="text-align: right; width: 5%;"><u>FY 2005</u></th> <th style="text-align: right; width: 5%;"><u>FY 2006</u></th> <th style="text-align: right; width: 5%;"><u>FY 2007</u></th> <th style="text-align: right; width: 5%;"><u>FY 2008</u></th> <th style="text-align: right; width: 5%;"><u>FY 2009</u></th> <th style="text-align: right; width: 5%;"><u>FY 2010</u></th> <th style="text-align: right; width: 5%;"><u>FY 2011</u></th> <th style="text-align: right; width: 10%;"><u>To Complete</u></th> <th style="text-align: right; width: 10%;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>APN-1 (BLI - 018200)</td> <td style="text-align: right;">327.258</td> <td style="text-align: right;">363.286</td> <td style="text-align: right;">554.499</td> <td style="text-align: right;">916.218</td> <td style="text-align: right;">966.443</td> <td style="text-align: right;">1,133.407</td> <td style="text-align: right;">1,181.658</td> <td style="text-align: right;">1,228.247</td> <td style="text-align: right;">2,525.869</td> <td style="text-align: right;">9,196.885</td> </tr> <tr> <td>APN-6 Initial Spares (BLI-060510)</td> <td style="text-align: right;">17.999</td> <td style="text-align: right;">55.056</td> <td style="text-align: right;">101.019</td> <td style="text-align: right;">14.782</td> <td style="text-align: right;">1.284</td> <td style="text-align: right;">1.399</td> <td style="text-align: right;">1.249</td> <td style="text-align: right;">1.405</td> <td></td> <td style="text-align: right;">194.193</td> </tr> </tbody> </table> <p>Related RDT&E (U) PE 0604507N Enhanced Modular Signal Processor (U) PE 0604212N ASW & Other Helo Development (LAMPS MK-III Data Link) (U) PE 0604261N Acoustic Search Sensors (U) PE 0604216N H-60 Helicopter Components Preventative Maintenance Life Cycle Criteria (PMLCC). PU: 9215</p> <p>E. ACQUISITION STRATEGY:</p> <p>The MH-60R acquisition strategy has been revised based on the program restructure, which occurred in FY2002. The restructure encompassed a replan of the EMD-II contract resulting in a change in contract type from Cost Plus Fixed Fee (CPFF) to Cost Plus Award Fee (CPAF) and inclusion of Sikorsky in development efforts. The restructure also extended the test schedule, which will culminate in a Milestone III (MS-III) and Initial Operating Capability (IOC) in FY2005. The program includes an evolutionary acquisition Block I Upgrade effort which began in FY2004.</p>											<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>	APN-1 (BLI - 018200)	327.258	363.286	554.499	916.218	966.443	1,133.407	1,181.658	1,228.247	2,525.869	9,196.885	APN-6 Initial Spares (BLI-060510)	17.999	55.056	101.019	14.782	1.284	1.399	1.249	1.405		194.193
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>																																	
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APN-6 Initial Spares (BLI-060510)	17.999	55.056	101.019	14.782	1.284	1.399	1.249	1.405		194.193																																	

R-1 SHOPPING LIST - Item No. 87

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE:				
February 2005												
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604216N (U) Multi-Mission Helicopter Upgrade Dev			1707 LAMPS III IMP						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Pri Hdw Dev, Avionics	SS/CPAF	Lockheed Martin, Owego NY	603.437	8.160	12/04						611.597	611.597
Ancillary Hdw Dev, ALFS	SS/CPIF	Raytheon, Rhode Island	27.952								27.952	27.952
Pri Hdw Dev, Avionics Common Cockpit	SS/CPIF	Lockheed Martin, Owego NY	70.530								70.530	70.530
Pri Hdw Dev, Avionics Acoustics	SS/CPIF	Lockheed Martin, Owego NY	11.062	0.400	02/05						11.462	11.462
Pri Hdw Dev, Airframe TA	SS/CPAF	Sikorsky, Stratford, CT	61.920	0.518	01/05						62.438	62.438
Pri Hdw Dev, Airframe PADS	SS/CPIF	Sontech, Bedford, NH	17.769								17.769	17.769
GFE	BOA	Sikorsky, Stratford, CT	4.238								4.238	4.238
Pri Hdw Dev, Airframe Dyn Com Analysis	SS/CPIF	Sikorsky, Stratford, CT	10.999								10.999	10.999
Aircraft Integration (ATIRCM)	SS/CPFF	Lockheed Martin, Owego NY	3.964								3.964	3.964
Pri Hdw Dev, Avionics Block I	SS/CPAF	Lockheed Martin, Owego NY	5.400	40.600	01/05	25.000	TBD	3.600	TBD		74.600	74.600
Pri Hdw Dev, Airframe Block I	SS/CPAF	Sikorsky, Stratford, CT	0.300	2.600	01/05	0.400	TBD				3.300	3.300
Pri Hdw Dev, Avionics TC DL	845 OTA	Coast Systems Harris, FL	6.800								6.800	6.800
Award Fees	SS/CPAF	Lockheed Martin, Owego NY	2.226	0.640	03/05						2.866	2.866
Award Fees	SS/CPAF	Sikorsky, Stratford, CT	1.195	0.408	03/05						1.603	1.603
Subtotal Product Development			827.792	53.326		25.400		3.600		0.000	910.118	
Remarks:												
Of award fees in past award fee periods, Lockheed Martin was awarded 63% and Sikorsky Aircraft Corporation was awarded 79%.												

R-1 SHOPPING LIST - Item No. 87

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 8 of 21)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604216N (U) Multi-Mission Helicopter Upgrade Dev			1707 LAMPS III IMP						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Development Support	Various	Various	102.801	7.283	Various	5.688	TBD	3.708	TBD	3.945	123.425	
Software Development											0.000	
Integrated Logistics Support	Various	Various	12.566	0.000							12.566	
GFE	Various	Various	7.611								7.611	
Subtotal Support			122.978	7.283		5.688		3.708		3.945	143.602	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)							DATE: February2005					
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604216N (U) Multi-Mission Helicopter Upgrade Dev			PROJECT NUMBER AND NAME 1707 LAMPS III IMP						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWC-AD, Pax River	76.985								76.985	
Operational Test & Evaluation	WX	Various	3.226	4.316	Various						7.542	
Live Fire Test & Evaluation	WX	Various	2.221								2.221	
Block I Test & Evalutation	WX	NAWC-AD, Pax River	5.000	10.000	Various	16.500	TBD	10.500	TBD	10.400	52.400	
Subtotal T&E			87.432	14.316		16.500		10.500		10.400	139.148	
Remarks: Live Fire Test & Evaluation consists of the following performing activities & location: NAWCWD, China Lake, NADEP, Cherry Point and NAWCAD, Pax River.												
Contractor Engineering Support	Various	CECOM, Ft. Monmouth	3.296								3.296	
Engineering and Technical Services	Various	Various	11.619	0.938	Various	0.289	TBD	0.579	TBD		13.425	
Management and Prof Spt Serv	Various	MISC Activities	6.087	0.442	Various	0.100	TBD	0.200	TBD		6.829	
Travel	WX	NAWC-AD Pax River	6.154	1.700	Various	0.167	TBD	0.333	TBD		8.354	
Subtotal Management			27.156	3.080		0.556		1.112		0.000	31.904	
Remarks:												
Total Cost			1,065.358	78.005		48.144		18.920		14.345	1,224.772	
Remarks:												

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 10 of 21)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:											
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-5												0604216N Multi-Mission Helicopter Upgrade Development												1707 MMH Upgrade Development											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
Acquisition Milestones										★	△																								
Test & Evaluation Milestones																																			
Development Test	DT-IID				TECHEVAL																														
Operational Test																																			
Follow-on Test																																			
Production Milestones																																			
LRIP II FY 04																																			
LRIP III FY 05																																			
MS III/Lot-IV FY 06																																			
Deliveries																																			

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 11 of 21)

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 12 of 21)

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Termination Liability Funding
For Major Defense Acquisition Programs,
RDT&E Funding
(\$000)

Program	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
0604216N Multi-Mission Helicopter Upgrade Development	0	0	0	0	0	0	0	0

This program does not budget/fund termination liability separately. A Limitation of Funds (LoF) clause (FAR 52.232-22) is inserted in all incrementally funded R&D contracts. This clause is designed to limit the government's legal liability to the amount obligated.

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Exhibit R-2a, RDTEEN Project Justification
(Exhibit R-2a, page 13 of 21)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604216N Multi-Mission Helicopter Upgrade Dev			PROJECT NUMBER AND NAME 9548 AQS-22 Airborne Low Frequency Sonar (ALFS)			
COST (\$ in Millions)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
Project Cost	0.000	1.632	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The AQS-22Airborne Low Frequency Sonar (ALFS) is the primary Undersea Warfare (USW) sensor of the MH-60R Multi-Mission Helicopter. Congressional Add.</p>								

R-1 SHOPPING LIST - Item No.

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 14 of 21)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604216N Multi-Mission Helicopter Upgrade Dev	PROJECT NUMBER AND NAME 9548 AQS-22 Airborne Low Frequency Sonar (ALFS)																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">1.632</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	1.632	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	1.632	0.000	0.000															
RDT&E Articles Quantity																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost																			
RDT&E Articles Quantity																			
<div style="border: 1px solid black; min-height: 80px; margin-top: 10px;"></div>																			

R-1 SHOPPING LIST - Item No.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604216N Multi-Mission Helicopter Upgrade Development	PROJECT NUMBER AND NAME 9548 AQS-22 Airborne Low Frequency Sonar (ALFS)		

C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
Funding:				
Previous President's Budget:	0.000	0.000	0.000	0.000
Current BES/President's Budget	0.000	1.632	0.000	0.000
Total Adjustments	0.000	1.632	0.000	0.000
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.068		
Congressional rescissions				
SBIR/STTR Transfer				
Economic Assumptions				
Reprogrammings				
Congressional increases		1.700		
Subtotal	0.000	1.632	0.000	0.000

Schedule:

Not applicable.

Technical:

Not applicable.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604216N Multi-Mission Helicopter Upgrade Developmen			PROJECT NUMBER AND NAME 9548 AQS-22 Airborne Low Frequency Sonar (ALFS)					

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
APN-1 (BLI - 018200)	327.258	363.286	554.499	916.218	966.443	1,133.407	1,181.658	1,228.247	2,525.869	9,196.885
APN-6 Initial Spares (BLI-060510)	17.999	55.056	101.019	14.782	1.284	1.399	1.249	1.405		194.193
<p>Related RDT&E (U) 0604216N, H1707, MH-60R Multi-Mission Helicopter Upgrade Development</p>										

E. ACQUISITION STRATEGY:

Establish a U. S. based production capability for the ALFS wet end subsystem

R-1 SHOPPING LIST - Item No. 87

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604216N Multi-Mission Helicopter Upgrade Dev				PROJECT NUMBER AND NAME 9549 Multi-Mission Helicopter Legacy Subsystems Improvement			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	0.000	1.684	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Legacy Subsystems Improvement is for the research, design and development of improved subsystems on the MH-60R Multi-Mission Helicopter. Congressional Add.</p>								

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604216N Multi-Mission Helicopter Upgrade Dev	PROJECT NUMBER AND NAME 9549 Multi-Mission Helicopter Legacy Subsystems Improvement																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">1.684</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	1.684	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	1.684	0.000	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 60px;">Multi-Mission Helicopter Legacy Subsystems Improvement to include: research, design and development of improved subsystems on the MH-60R program. Requirements include removal of flotation bag provisions and introduction of center console manufacturing innovations. Example tasks include design of a new modular sonobuoy launcher, removal of flotation bag provisions from main landing gear stub wings, center console manufacturing improvements, rast probe lighting, as well as various manufacturing/integration issues.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td></td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost					RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost																			
RDT&E Articles Quantity																			
<div style="border: 1px solid black; height: 70px;"></div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td></td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost					RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost																			
RDT&E Articles Quantity																			
<div style="border: 1px solid black; height: 80px;"></div>																			

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604216N Multi-Mission Helicopter Upgrade Development	PROJECT NUMBER AND NAME 9549 Multi-Mission Helicopter Legacy Subsystems Improvement		

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2004	FY 2005	FY 2006	FY 2007
Previous President's Budget:	0.000	0.000	0.000	0.000
Current BES/President's Budget	0.000	1.684	0.000	0.000
Total Adjustments	0.000	1.684	0.000	0.000
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.016		
Congressional rescissions				
SBIR/STTR Transfer				
Economic Assumptions				
Reprogrammings				
Congressional increases		1.700		
Subtotal	0.000	1.684	0.000	0.000

Schedule:

Not applicable.

Technical:

Not applicable.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2005

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5	0604216N Multi-Mission Helicopter Upgrade Development	9549 Multi-Mission Helicopter Legacy Subsystems Improvement

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
APN-1 (BLI - 018200)	327.258	363.286	554.499	916.218	966.443	1,133.407	1,181.658	1,228.247	2,525.869	9,196.885
APN-6 Initial Spares (BLI-060510)	17.999	55.056	101.019	14.782	1.284	1.399	1.249	1.405		194.193

Related RDT&E

(U) 0604216N, H1707, MH-60R Multi-Mission Helicopter Upgrade Development

E. ACQUISITION STRATEGY:

Acquisition strategy is to address the issue of the obsolete legacy kits /ancillary systems and their update and integration, as well as various manufacturing issues. Example tasks include design of a new modular sonobuoy launcher, removal of flotation bag provisions from main landing gear stub wings, center console manufacturing improvements, rast probe lighting, as well as various manufacturing/integration issues.

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 21 of 21)

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: FEBRUARY 2005		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /				R-1 ITEM NOMENCLATURE 0604218N Air/Ocean Equipment Engineering				
BA-5								
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	2.851	4.461	4.558	5.690	5.841	5.949	6.085	6.195
2345 Fleet METOC Equipment	2.851	3.144	3.174	4.032	4.152	4.237	4.339	4.421
2346 METOC Sensor Engineering	0.000	1.317	1.384	1.658	1.689	1.712	1.746	1.774
Quantity of RDT&E Articles								
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Air/Ocean Equipment Engineering (AOEE) Program Element provides future mission capabilities to support Naval combat forces. This program engineers and developmentally tests organic and remote sensors, communication interfaces, and processing and display devices. These equipments are engineered to measure, ingest, store, process, distribute and display conditions of the physical environment that are essential to the optimum employment and performance of Naval warfare systems. AOEE also engineers capabilities for shipboard and shore-based tactical systems. A major thrust area for the AOEE program is to provide the engineering development of specialized equipment and measurement capabilities that are intended to monitor specific conditions of the physical environment in hostile and remote areas. With such capabilities, the warfighters' situational awareness of the operational effects of the physical environment are made more certain.								
(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under ENGINEERING & MANUFACTURING DEVELOPMENT because it encompasses engineering and manufacturing development of new end-items prior to production approval decision.								

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 1 of 19)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604218N Air/Ocean Equipment Engineering				PROJECT NUMBER AND NAME 2345 Fleet METOC Equipment		
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	2.851	3.144	3.174	4.032	4.152	4.237	4.339	4.421
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project provides for the engineering and manufacturing development of sensors, communication interfaces, and processing and display equipment. This equipment is designed to provide future mission capabilities for warfighters to measure, ingest, store, process, distribute and display meteorological and oceanographic (METOC) parameters and derived products. Major emphasis areas include the Tactical Environmental Support System (TESS), and the associated Navy Integrated Tactical Environmental Subsystem (NITES), the Marine Corps Meteorological Mobile Facility (METMF), the AN/SMQ-11 satellite data receiver/recorder, shipboard weather radar capabilities, and the development of new sensors such as active and passive atmospheric profilers. This project also exploits new GOTS/COTS technologies and web enablement for the Navy's computer-based tactical shipboard and shore capability used to predict and assess the operational effects of the physical environment on the performance of platforms, weapons and sensor systems.</p>								

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 2 of 19)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME 0604218N Air Ocean Equipment Engineering	PROJECT NUMBER AND NAME 2345 Fleet METOC Equipment																	
(U) B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Object Oriented Database Management</td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.824</td> <td>0.908</td> <td>0.917</td> <td>1.166</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>					Object Oriented Database Management	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.824	0.908	0.917	1.166	RDT&E Articles Quantity				
Object Oriented Database Management	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.824	0.908	0.917	1.166															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> FY04: Delivered technical report. Transitioned to web-enabled high-speed battlegroup data server. FY05: Complete transition and deliver final version to web-enabled high-speed battlegroup data server. Development of Object Oriented Database Management engineering for next generation data server employing expert system techniques. FY06: Complete and deliver Object Oriented Database Management system for next generation data server employing expert system techniques. FY07: Integrate Object Oriented Database Management system for the next generation data server into the Network infrastructure. Deliver associated documentation. </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Fleet System Engineering</td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.672</td> <td>0.741</td> <td>0.746</td> <td>0.948</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>					Fleet System Engineering	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.672	0.741	0.746	0.948	RDT&E Articles Quantity				
Fleet System Engineering	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.672	0.741	0.746	0.948															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> FY04: Delivered test report for Navy Integrated Tactical Environmental Systems (NITES) I Upgrade. FY05: Deliver Alternatives Study for the Next Generation Meteorological Mobile Facility. FY06: Deliver final study on Next Generation Mini-Rawin System (MRS). FY07: Deliver Alternatives Study for the Next Generation mobile Met Sensors. </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Lead Laboratory</td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.563</td> <td>0.621</td> <td>0.626</td> <td>0.795</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>					Lead Laboratory	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.563	0.621	0.626	0.795	RDT&E Articles Quantity				
Lead Laboratory	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.563	0.621	0.626	0.795															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> FY04-07: Lead laboratory conducts annual software integration, assists model developers, and provides technical assistance to other activities. FY04: Delivered Quarterly Reports FY05: Deliver Quarterly Reports. FY06: Deliver Quarterly Reports. FY07: Deliver Quarterly Reports. </div>																			

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EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME 0604218N Air Ocean Equipment Engineering	PROJECT NUMBER AND NAME 2345 Fleet METOC Equipment		
(U) B. Accomplishments/Planned Program				
Off-the-Shelf Technology	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.792	0.874	0.885	1.123
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 5px;"> FY04: Delivered Tactical Environmental Data Services (TEDServices) Initial Report. Exploited off-the-shelf prototype hardware and other emerging technologies. FY05: Deliver Evaluation Report for COTS Database. FY06: Deliver SMQ-11 antenna Analysis of Alternatives study. FY07: Deliver initial report detailing huge dataset transfer capability into Tactical Environmental Data Services (TEDServices). </div>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				
<div style="border: 1px solid black; height: 60px; width: 100%;"></div>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				
<div style="border: 1px solid black; height: 60px; width: 100%;"></div>				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604218N Air Ocean Equipment Engineering	PROJECT NUMBER AND NAME 2345 Fleet METOC Equipment		

(U) C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
(U) Funding:				
FY05 President's Budget	3.041	3.176	3.193	4.037
FY06 President's Budget	2.851	3.144	3.174	4.032
Total Adjustments	-0.190	-0.032	-0.019	-0.005
Summary of Adjustments				
Congressional Adjustments				
Congressional Recissions		-0.028		
Reprogrammings	-0.127			
Programmatic Adjustments		-0.004	-0.019	-0.005
Economic Assumptions				
Pricing Adjustments				
SBIR/STTR Transfers	-0.063			
Subtotal	-0.190	-0.032	-0.019	-0.005

(U) Schedule:

Changes in schedule were made to reflect a higher fidelity with respect to deliverables than FY05 President's Budget Submission to align with Future Mission Capabilities.

Change in Off-the-Shelf Technology in FY 2005 due to an emergent SMQ-11 Antenna Analysis of Alternative requirements. No material impact to program or future procurements.

(U) Technical:

Not Applicable

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: FEBRUARY 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604218N Air Ocean Equipment Engineering				PROJECT NUMBER AND NAME 2345 Fleet METOC Equipment		

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
OPN 4226 METEOROLOGICAL EQUIPMENT	25.230	20.011	25.129	22.018	26.947	30.450	31.099	31.760
RDT&E: PE 0603207N, Air/Ocean Tactical Ap	21.247	25.186	27.094	32.145	31.265	32.205	31.945	32.617

(U) E. ACQUISITION STRATEGY:

Acquisition, management and contracting strategies are to support engineering and manufacturing development by providing funds to Naval Research Laboratories and miscellaneous contractors, with management oversight by the Program Executive Officer for Command, Control, Communications, Computers and Intelligence and Space (PEO C4I & Space).

(U) F. MAJOR PERFORMERS:

N/A

(U) G. METRICS:

Earned Value Management (EVM) is used for metrics reporting and risk management.

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: FEBRUARY 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604218N Air Ocean Equipment Engineering			PROJECT NUMBER AND NAME 2345 Fleet METOC Equipment						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Software Development	WX	NRL	7.249	1.110	NA	1.125	NA	1.439	NA	CONT	CONT	
	WX	SSCs	3.291	0.446	NA	0.451	NA	0.570	NA	CONT	CONT	
	CP	RAYTHEON	1.502	0.224	NA	0.226	NA	0.286	NA	CONT	CONT	
	NA	MISC	10.722	1.302	NA	1.308	NA	1.657	NA	CONT	CONT	
Subtotal Product Development			22.764	3.082		3.111		3.953		CONT	CONT	
Remarks:												
Development Support	CP	SSA/CSC	1.312	0.000		0.000		0.000				
Subtotal Support			1.312	0.000		0.000		0.000		CONT	CONT	
Remarks:=-												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)									DATE: FEBRUARY 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE&E, N / BA-5			0604218N Air Ocean Equipment Engineering			2345 Fleet METOC Equipment						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	PD	OPTEVFOR	0.364	0.062	N/A	0.063	N/A	0.079	N/A	CONT	CONT	
Subtotal T&E			0.364	0.062		0.063		0.079		CONT	CONT	
Remarks:												
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			24.440	3.144		3.174		4.032		CONT	CONT	
Remarks:												

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Exhibit R-2a, RDTE Project Justification
(Exhibit R-2a, page 8 of 19)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																				DATE:																															
APPROPRIATION/BUDGET ACTIVITY																				PROGRAM ELEMENT NUMBER AND NAME																PROJECT NUMBER AND NAME															
RDT&E, N / BA-5																				0604218N Air Ocean Equipment Engineering																2345 Fleet METOC Equipment															
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011																						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4																							
Obj Oriented DBMS (Database Management System)	High Speed BG Data Server				Incorp Expert Systems/COE				Network Integration				Emerging DBMS Technologies				Emerging DBMS Technologies				Emerging DBMS Technologies				Emerging DBMS Technologies				Emerging DBMS Technologies																						
	DEM/VAL				DEM/VAL				DEM/VAL				DEM/VAL				DEM/VAL				DEM/VAL				DEM/VAL				DEM/VAL																						
Fleet Sys Engineering	Sys Engineering Upgrades				AoA for NEXGEN METMF				AoA for MRS				AoA for MRS				AoA for MRS				AoA for MRS				AoA for MRS				AoA for MRS																						
	NITES I Upgrade				NITES I Upgrade				NITES I Upgrade				NITES I Upgrade				NITES I Upgrade				NITES I Upgrade				NITES I Upgrade				NITES I Upgrade																						
Lead Laboratory	SW Engineering				SW Engineering				SW Engineering				SW Engineering				SW Engineering				SW Engineering				SW Engineering				SW Engineering																						
	SW Engineering				SW Engineering				SW Engineering				SW Engineering				SW Engineering				SW Engineering				SW Engineering				SW Engineering																						
Off-the-Shelf Technology	SMQ-11 Antenna				SMQ-11 Antenna				SMQ-11 Antenna				SMQ-11 Antenna				SMQ-11 Antenna				SMQ-11 Antenna				SMQ-11 Antenna				SMQ-11 Antenna																						
	SMQ-11 Antenna				SMQ-11 Antenna				SMQ-11 Antenna				SMQ-11 Antenna				SMQ-11 Antenna				SMQ-11 Antenna				SMQ-11 Antenna				SMQ-11 Antenna																						
	Huge Data Set Transfer				Huge Data Set Transfer				Huge Data Set Transfer				Huge Data Set Transfer				Huge Data Set Transfer				Huge Data Set Transfer				Huge Data Set Transfer				Huge Data Set Transfer																						
	Huge Data Set Transfer				Huge Data Set Transfer				Huge Data Set Transfer				Huge Data Set Transfer				Huge Data Set Transfer				Huge Data Set Transfer				Huge Data Set Transfer				Huge Data Set Transfer																						
	3/4-D Visual Accelerators				3/4-D Visual Accelerators				3/4-D Visual Accelerators				3/4-D Visual Accelerators				3/4-D Visual Accelerators				3/4-D Visual Accelerators				3/4-D Visual Accelerators				3/4-D Visual Accelerators																						
	3/4-D Visual Accelerators				3/4-D Visual Accelerators				3/4-D Visual Accelerators				3/4-D Visual Accelerators				3/4-D Visual Accelerators				3/4-D Visual Accelerators				3/4-D Visual Accelerators				3/4-D Visual Accelerators																						
	Emerging Technologies				Emerging Technologies				Emerging Technologies				Emerging Technologies				Emerging Technologies				Emerging Technologies				Emerging Technologies				Emerging Technologies																						
	Emerging Technologies				Emerging Technologies				Emerging Technologies				Emerging Technologies				Emerging Technologies				Emerging Technologies				Emerging Technologies				Emerging Technologies																						

R-1 SHOPPING LIST - Item No. 88

* Not required for Budget Activities 1, 2, 3, and 6

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CLASSIFICATION:

[illegible]

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: FEBRUARY 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604218N Air/Ocean Equipment Engineering				PROJECT NUMBER AND NAME 2346 METOC Sensor Engineering		
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	0.000	1.317	1.384	1.658	1.689	1.712	1.746	1.774
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project provides for the engineering and manufacturing development of specialized, high resolution instrumentation systems and measurement capabilities for obtaining near real-time, in-situ meteorological and oceanographic (METOC) data in hostile, remote, and denied areas. The project's objectives are to provide near-term future mission capabilities that are intended to ruggedize and package systems, sensors and instruments to survive the harsh littoral and deep-strike environments and also to meet demanding requirements for timeliness and accuracy. Engineering is performed within this project to ensure that air and safety certification for deployment from fleet aircraft or ships is met and that the proper data formats are employed for integration into existing or planned communications and displays. The end products are sensors and systems that will provide the tactical commander with near real-time, in-situ METOC data for operational use. In addition, this project engineers and integrates sensor capabilities that are intended to obtain unique METOC data that will provide important inputs for predictive models in areas of potential interest.</p>								

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 11 of 19)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME 0604218N Air Ocean Equipment Engineering	PROJECT NUMBER AND NAME 2346 METOC Sensor Engineering		

(U) B. Accomplishments/Planned Program

Unmanned Aerial Vehicle METOC Sensors	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.173	0.182	0.218
RDT&E Articles Quantity				

FY04: Development suspended in FY04 and program rephased per Congressional diirection.

FY05: Resume Meteorological Sensor engineering development to include micro-miniature temperature, pressure, and humidity sensors.

FY06: Flight test for first generation micro-miniature sensors in operational Unmanned Aerial Vehicles (UAVs). Development of follow-on Meteorological sensors using evolving techniques.

FY07: Develop and demonstrate sensor integration and compatibility with Network. Development of follow-on Meteorological sensors using evolving technologies.

Clandestine Sensors	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.173	0.182	0.218
RDT&E Articles Quantity				

FY04: Development suspended in FY04 and program rephased per Congressional direction.

FY05: Deliver Initial Sensor Development Execution Plan.

FY06: Deliver Final Technical Report on air-deployed micro-sensors.

FY07: Flight test air-deployed micro-sensors and deliver Final Report. Begin investigating Network integration.

Tactical Battlespace Sensors (formerly MEASURE)	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.792	0.833	0.997
RDT&E Articles Quantity				

FY04: Development suspended in FY04 and program rephased per Congressional direction.

FY05: Deliver Technical Reports to include post demonstration Lessons Learned. Perform end-to-end Battlespace Sensor Data Acquisition Demonstration, from sensor data acquisition through tactical application. Development of Metoc Air, Surface, Undersea Reporting Equipment (MEASURE) including sensors and processing/distribution devices that detect, characterize and distribute meteorological and oceanographic data from the battlespace.

FY06: Deliver Technical Reports. Development of next generation Acoustic Measurement Buoy.

FY07: Deliver Technical Reports on Buoy.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME 0604218N Air Ocean Equipment Engineering	PROJECT NUMBER AND NAME 2346 METOC Sensor Engineering		
(U) B. Accomplishments/Planned Program				
Unmanned Underwater Vehicle Sensors	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.179	0.187	0.225
RDT&E Articles Quantity				
<div style="border: 1px solid black; min-height: 100px; margin-top: 10px;"> <p>FY04: Development suspended in FY04 and program rephased per Congressional direction.</p> <p>FY05: Deliver Technical Reports. Development of Unmanned Underwater Vehicle Sensors engineering for tactical acoustic measurement buoy.</p> <p>FY06: Deliver Technical Reports. Demonstrate prototype sensors to include Post Demonstration Lessons Learned.</p> <p>FY07: Deliver Technical Reports. Deliver initial engineering plan including Total Ownership Cost (TOC) estimates. Development of sensor -Unmanned Underwater Vehicle Sensor (UUVs) engineering plans.</p> </div>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				
<div style="border: 1px solid black; min-height: 100px; margin-top: 10px;"> </div>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				
<div style="border: 1px solid black; min-height: 100px; margin-top: 10px;"> </div>				

R-1 SHOPPING LIST - Item No.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604218N Air Ocean Equipment Engineering	PROJECT NUMBER AND NAME 2346 METOC Sensor Engineering		

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY05 President's Budget	0.000	1.330	1.370	1.659
FY06 President's Budget	0.000	1.317	1.384	1.658
Total Adjustments	0.000	-0.013	0.014	-0.001

Summary of Adjustments

Congressional Adjustments				
Congressional Recissions		-0.013		
Reprogrammings				
Programmatic Adjustments			0.004	-0.018
Economic Assumptions			0.013	0.020
Pricing Adjustments			-0.003	-0.003
SBIR/STTR Transfers				
Subtotal	0.000	-0.013	0.014	-0.001

(U) Schedule:

Change in schedules were made to reflect a higher fidelity with respect to deliverables than FY05 President's Budget Submission to align with Future Mission Capabilities.

(U) Technical:

Not Applicable

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Exhibit R-2a, RDTE Project Justification
(Exhibit R-2a, page 14 of 19)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604218N Air Ocean Equipment Engineering	PROJECT NUMBER AND NAME 2346 METOC Sensor Engineering		

(U) D. OTHER PROGRAM FUNDING SUMMARY:

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
RDT&E: PE 0603207N, Air/Ocean Tactical A	21.247	25.186	27.094	32.145	31.265	32.205	31.945	32.617

(U) E. ACQUISITION STRATEGY:

Acquisition and contracting strategies are to support engineering and manufacturing development of specialized, high resolution instrumentation systems and measurement techniques for obtaining near real-time in-situ meteorological and oceanographic (METOC) data in denied or remote areas by providing funds to NAVAIR and miscellaneous contractors, with management oversight by the Program Executive Officer for Command, Control, Communications, Computers and Intelligence and Space (PEO C4I & Space).

(U) F. MAJOR PERFORMERS:

N/A

(U). G. METRICS:

Earned Value Management (EVM) is used for metrics reporting and risk management.

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: FEBRUARY 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604218N Air Ocean Equipment Engineering			PROJECT NUMBER AND NAME 2346 METOC Sensor Engineering						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Software Development	WX	NRL	1.314	0.053	NA	0.055	NA	0.065	NA	CONT	CONT	
	NA	MISC	6.321	1.264	NA	1.329	NA	1.593	NA	CONT	CONT	
Subtotal Product Development			7.635	1.317		1.384		1.658		CONT	CONT	
Remarks:												
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)									DATE: FEBRUARY 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE&E, N / BA-5			0604218N Air Ocean Equipment Engineering			2346 METOC Sensor Engineering						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Subtotal T&E			0.000	0.000		0.000		0.000			0.000	
Remarks:												
Subtotal Management			0.000	0.000		0.000		0.000			0.000	
Remarks:												
Total Cost			7.635	1.317		1.384		1.658		CONT	CONT	
Remarks:												

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:									
FEBRUARY 2005																																	
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME																PROJECT NUMBER AND NAME												
RDT&E, N / BA-5					0604218N Air Ocean Equipment Engineering																2346 METOC Sensor Engineering												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
UAV METOC Sensors (Unmanned Aerial Vehicle)	▲			Micro-Sensor Development				DEM/VAL	▲			UAV Integration				Network Integration			▽	NEXGEN Sensor Development													
												DEM/VAL				DEM/VAL								DEM/VAL									
Clandestine Sensors				Autonomous Sensor Engineering				DEM/VAL	▲			▽	Air Deployed Micro-sensors			▽	Network Integration			▽	NEXGEN Sensor Development								DEM/VAL			▲	
													DEM/VAL					▲	DEM/VAL										DEM/VAL				
Tactical Battlespace Sensors (Formerly MEASURE)				End-to-End Integrated Demo				▲		▽		Tactical Acoustic Buoy			DEM/VAL		▲	Wave Buoy Upgrades			▽	Network Integration				DEM/VAL		▲					
UUV Sensors Unmanned Underwater Vehicle	▲							UUV Sensor Development			▽	UUV Integration			DEM/VAL		▽	Micro AUV Network Integration			DEM/VAL		▲	Next Generation ROV			DEM/VAL		▲				

* Not required for Budget Activities 1, 2, 3, and 6

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 19 of 19)

R-1 SHOPPING LIST - Item No. 88

CLASSIFICATION:

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EXHIBIT R-2, RDT&E Budget Item Justification							DATE:	
							February 2005	
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE			
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					0604221N P-3 Modernization Program			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	14.257	13.038	7.401	5.245	5.343	5.412	5.540	5.655
1152 P-3 Sensor Integration	7.097	6.124	4.387	3.215	3.294	3.350	3.409	3.455
3016 Fatigue Life Management Program		2.954	3.014	2.030	2.049	2.062	2.131	2.200
9368 ALR-95 SEI Networking Program	1.250	2.971						
9369 P-3 AIP Phase Capability Upgrade	5.910							
9551 Personal Digital Assistant Maintenance		0.989						
A. RDT&E MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program provides for P-3C aircraft systems development in subsurface and surface surveillance, search, detection, localization, classification, attack and communications in support of Sea Shield/Sea Power 21. The P-3C Sensor Integration project integrates advanced and future ASW and ASuW sensors, weapons systems, and supporting technology into legacy P-3C systems and phased capabilities upgrades. Also, P-3 Sensor Integration will expand software and hardware technology of P-3 systems to integrate additional sensor and processing capabilities, environmental prediction tools, tactical decision aides, color capabilities and communications to improve aircrew tactical proficiency and battlespace awareness. Sensor Integration is a continuous effort to integrate and test newly evolving ASW and ASuW technologies such as Analyzer Sub-Unit and System Controller Technology Insertions, "Extended Echo Ranging" (EER) family of Multi-Static active systems, Acoustic Rapid Cots Insertion (ARCI), Non-acoustic ASW sensors and systems, and future Technical Refresh insertions for obsolescence and processing improvements. Develop interface control for ASW weapon improvement solutions. Fatigue Life Management Program is required to manage P-3/EP-3 inventory fatigue life and includes ongoing structural analysis, analyzing emergent structural issues, conducting engineering studies, assessing Fleet impact, and applying new technologies such as Non-Destructive Inspection (NDI) techniques. ALR-95 SEI Networking Program will provide Specific Emitter Identification (SEI) connectivity to common tactical networks. The ALR-95 Radio Frequency Distribution (RFD) will upgrade the system of the ALR-95 with fibre optic cable to reduce losses and improve performance. P-3 AIP Phased Capability Upgrade will integrate LINK-16 into P-3C AIP aircraft. The Personal Digital Assistant Maintenance Application Program (PDA MAP) will reduce paper data collection and manual data entry process associated with scheduled maintenance inspections. PDA MAP will improve efficiency, increase data collection accuracy, and reduce Naval Aviation Logistics Command Management Information System (NALCOMIS) data entry time.								

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Exhibit R-2, RDTEN Budget Item Justification
 (Exhibit R-2, page 1 of 25)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604221N P-3 Modernization Program				PROJECT NUMBER AND NAME 1152 P-3 Sensor Integration			
COST (\$ in Millions)	FY2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	7.097	6.124	4.387	3.215	3.294	3.350	3.409	3.455
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

RDT&E Mission Description and Budget Item Justification

This program provides for P-3C aircraft systems development in subsurface and surface surveillance, search, detection, localization, classification, attack and communications in support of Sea Shield/Sea Power 21. The P-3C Sensor Integration project integrates advanced and future ASW and ASuW sensors, weapons systems, and supporting technology into legacy P-3C systems and phased capabilities upgrades. The program also advances Air ARCI efforts by replacing legacy MIL-SPEC UYS-1 with increasingly open, COTS-based architecture. Also, P-3 Sensor Integration will expand software and hardware technology of P-3 systems to integrate additional sensor and processing capabilities, environmental prediction tools, tactical decision aides, color capabilities and communications to improve aircrew tactical proficiency and battlespace awareness. Sensor Integration is a continuous effort to integrate and test newly evolving ASW and ASuW technologies such as Analyzer Sub-Unit (ASU) and System Controller (SC) Technology Insertions, "Extended Echo Ranging" (EER) family of Multi-Static active systems, Acoustic Rapid Cots Insertion (ARCI), Non-acoustic ASW sensors and systems, and future Technical Refresh insertions for obsolescence and processing improvements. Develop interface control for ASW weapon improvement solutions.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604221N P-3 Modernization Program	PROJECT NUMBER AND NAME 1152 P-3 Sensor Integration																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">2.597</td><td style="text-align: center;">1.624</td><td style="text-align: center;">4.387</td><td style="text-align: center;">3.215</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	2.597	1.624	4.387	3.215	RDT&E Articles Quantity				
	FY04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	2.597	1.624	4.387	3.215															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"><p>System engineering support for integration of EER family of Multi-Static active sensor system. Integrates advanced and future ASW and ASuW sensors, weapons systems, and supporting technology into legacy P-3C systems and phased capabilities upgrades. Advances Air ARCI efforts by replacing legacy MIL-SPEC UYS-1 with increasingly open, COTS-based architecture. Expands software and hardware technology of P-3 systems to integrate additional sensor and processing capabilities, environmental prediction tools, tactical decision aides, color capabilities and communications to improve aircrew tactical proficiency and battlespace awareness. Specifically the program integrates and tests newly evolving ASW and ASuW technologies such as Analyzer Sub-Unit (ASU) and System Controller (SC) Technology Insertions, "Extended Echo Ranging" (EER) family of Multi-Static active systems, Acoustic Rapid Cots Insertion (ARCI), Non-acoustic ASW sensors and systems, and future Technical Refresh insertions for obsolescence and processing improvements.</p></div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">4.500</td><td style="text-align: center;">4.500</td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	4.500	4.500			RDT&E Articles Quantity				
	FY04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	4.500	4.500																	
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"><p>P-3 Critical Obsolescence Program (COP): Integration, prototyping, testing, aircraft support, logistics, contracting, engineering, and program management of the five COP systems (HF Radio, Data Link, Infrared Detection, Tactical ASW Auto-Pilot, and Inter Communications).</p></div>																			

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604221N P-3 Modernization Program	PROJECT NUMBER AND NAME 1152 P-3 Sensor Integration		

C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
(U) Funding:				
Previous President's Budget:	7.225	6.566	2.252	2.287
Current BES/President's Budget	7.097	6.124	4.387	3.215
Total Adjustments	-0.128	-0.442	2.135	0.928
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.058		
Congressional rescissions				
SBIR/STTR Transfer	-0.136			
Other Adjustments		-0.384	2.049	0.882
Economic Assumptions			0.086	0.046
Reprogrammings	0.008			
Congressional Increases				
Subtotal	-0.128	-0.442	2.135	0.928

(U) Schedule:

The P-3 Critical Obsolescence Program Commence APN Procurement milestone moved from 2Q/04 to 3Q/04 due to rate issues and audits, delaying Contract Award. P-3 ARCI and Future Fleet Technology Insertion programs begin 2Q/06.

(U) Technical:

Not Applicable

R-1 SHOPPING LIST - Item No. 89

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 4 of 25)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005					
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME					
RDT&E, N / BA-5		0604221N P-3 Modernization Program				1152 P-3 Sensor Integration					
D. OTHER PROGRAM FUNDING SUMMARY:											
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>	
BLI 0538 P-3 Critical Obsolescence Program (COP) (OSIP 04-04)	14.502	22.904	43.712	43.696	42.141	46.168	39.776	35.653	256.270	544.822	
E. ACQUISITION STRATEGY:											
The Air Deployable Active Receiver/Improved Extended Echo Ranging (IEER) Operational Requirements Document (Ser# 297(1)-05-97)) for 1152 was approved on 29 December 1997. The P-3 ASUW Improvement Program (AIP) ORD (Ser#355-88-94) for 2417 was approved on 30 March 1994. The Acquisition Plan (AIR-93-08A Rev 2) was approved on 30 March 1998.											

R-1 SHOPPING LIST - Item No. 89

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-5			PROGRAM ELEMENT 0604221N P-3 Modernization Program			PROJECT NUMBER AND NAME 1152 P-3 Sensor Integration						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total Pys Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development (EER)	C/FP	Raytheon, McKinney, TX	6.425								6.425	6.425
Systems Engineering	Various	Various	30.440	0.050	01/05	2.200	01/06	2.000	01/07	Continuing	Continuing	
Systems Engineering	CPFF	Lockheed Martin, Manassas, Va.		1.000	02/05						1.000	1.000
Subtotal Product Development			36.865	1.050		2.200		2.000		Continuing	Continuing	
Remarks:												
Software Development	C/FP	Raytheon, McKinney, Tx	5.781								5.781	5.781
Software Development	C/FP	Raytheon, McKinney, Tx	1.998								1.998	1.998
Software Development	SS/FP	LMNESS, Egan, MN	14.561								14.561	14.561
Software Development	WX	NAWCAD, Pax River, MD	2.897	0.600	01/05	0.500	01/06	0.515	01/07	Continuing	Continuing	
Subtotal Support			25.237	0.600		0.500		0.515		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 89

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 6 of 25)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5				PROGRAM ELEMENT 0604221N P-3 Modernization Program			PROJECT NUMBER AND NAME 1152 P-3 Sensor Integration					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total Pys Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Test Support	WX	NAWCAD, Pax River, MD	2.241	2.255	01/05	0.650	01/06	0.300	01/07	Continuing	Continuing	
Subtotal T&E			2.241	2.255		0.650		0.300		Continuing	Continuing	
Remarks:												
Government Engineering Support	WX	NAWCAD, Pax River, MD	13.060									
Program Management Support	WX	NAWCAD, Pax River, MD	0.794	0.985	01/05	0.400	01/06	0.200	01/07	Continuing	Continuing	
Government Technical Support	WX	NAWCAD, Pax River, MD	0.366	0.500	01/05	0.450	01/06	0.100	01/07	Continuing	Continuing	
Government Technical Support	MIPR	MITRE, McLean, Va.		0.070								
Logistics Support	WX	NAWCAD, Pax River, MD	0.370	0.664	01/05	0.187	01/06	0.100	01/07	Continuing	Continuing	
SBIR												
Subtotal Management			14.590	2.219		1.037		0.400		Continuing	Continuing	
Remarks:												
Total Cost			78.933	6.124		4.387		3.215		Continuing	Continuing	
Remarks:												

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:											
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-5												0604221N P-3 Modernization Program												1152 P-3 Sensor Integration											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4							
EER Multi-Static Active Sensor System Support																																			
EER Fleet Technology Insertion																																			
P-3 Critical Obsolescence Program Integration & Test																																			
P-3 Critical Obsolescence Program Kits & Installation																																			
P-3 ARCI program and Future Fleet Technology Insertion																																			

R-1 SHOPPING LIST - Item No. 89

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CLASSIFICATION:

[illegible]

R-1 SHOPPING LIST - Item No. 89

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 9 of 25)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604221N P-3 Modernization Program				PROJECT NUMBER AND NAME 3016 Fatigue Life Management Program			
COST (\$ in Millions)	FY2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		2.954	3.014	2.030	2.049	2.062	2.131	2.200
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Fatigue Life Management Program is required to manage P-3/EP-3 inventory fatigue life and includes ongoing structural analysis, analyzing emergent structural issues, conducting engineering studies, assessing Fleet impact, and applying new technologies such as Non-Destructive Inspection (NDI) techniques.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604221N P-3 Modernization Program	PROJECT NUMBER AND NAME 3016 Fatigue Life Management Program		
B. Accomplishments/Planned Program				
	FY04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		2.954	3.014	2.030
RDT&E Articles Quantity				
<p>Fatigue Life Management Program : Manage P-3/EP-3 inventory fatigue life including conducting structural analysis, analyzing structural issues, conducting engineering studies, assessing Fleet impact. Research, test and apply new Fatigue Inspection techniques to the P-3/EP-3 Fleet.</p>				

R-1 SHOPPING LIST - Item No.

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 11 of 25)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																							
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604221N P-3 Modernization Program	PROJECT NUMBER AND NAME 3016 Fatigue Life Management Program																																																																								
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R-1 SHOPPING LIST - Item No. 89

UNCLASSIFIED

Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 12 of 25)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME					
RDT&E, N / BA-5		0604221N P-3 Modernization Program			3016 Fatigue Life Management Program					
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
N/A										
E. ACQUISITION STRATEGY:										
The Fatigue Life Management Program leverages off of prior work done under P-3 SLAP (2451). The ASUW Improvement Program (AIP) ORD 355-88-94 was approved 30 March 94. PMP #0526 Ser 902D1/6U324405 was approved on 6 Feb 1986. Navy Decision Coordination Paper W-0484-AS was signed 23 Jun 1984. Work will be performed by LMAS and other industry participants along with the NAVAIR Structural Engineering Dept, AIR-4.3. This program supports the 7 June 2003 CNO approved P-3/EP-3 Sustainment Bridge to MMA.										

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604221N P-3 Modernization Program				PROJECT NUMBER AND NAME 3016 Fatigue Life Management Program					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total Pys Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Systems Engineering	C/CPIF	LMAS, Marietta, GA		2.254	01/05	2.314	01/06	1.330	01/07	5.642	11.540	11.540
Subtotal Product Development			0.000	2.254		2.314		1.330		5.642	11.540	11.540
Remarks:												
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604221N P-3 Modernization Program			PROJECT NUMBER AND NAME 3016 Fatigue Life Management Program						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total Pys Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Subtotal T&E				0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
Govt Engineering Support	WX	NAWCAD, Pax River		0.700	12/04	0.700	12/05	0.700	12/06	2.800	4.900	4.900
Subtotal Management			0.000	0.700		0.700		0.700		2.800	4.900	4.900
Remarks:												
Total Cost			0.000	2.954		3.014		2.030		8.442	16.440	16.440
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
																								February 2005								
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME												
RDT&E, N / BA-5										0604221N P-3 Modernization Program										3016 Fatigue Life Management Program												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Inventory Fatigue Life Management/Sustainment																																

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 17 of 25)

R-1 SHOPPING LIST - Item No. 89

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604221N P-3 Modernization Program			PROJECT NUMBER AND NAME 9368 ALR-95 SEI Networking Program			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	1.250	2.971						
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The The U.S. Navy P-3C "Orion" is increasingly being tasked to conduct long-endurance standoff maritime surveillance operations. In support of these missions, the P-3C is being upgraded with the Anti-Surface Warfare Improvement Program (AIP). AIP incorporates a number of sensor system additions to the aircraft. Among these enhancements are a SAR/ISAR radar for high resolution target identification, a long range electro-optical surveillance system, communications and survivability enhancements and the new ALR-95 electronic support measures (ESM) system. Phased Capability Upgrade (PCU), encompasses improvements to the aircraft including Link 16, Global Command and Control System-Maritime (GCCS-M), Integrated Tactical Picture (ITP) Precision Targeting Workstation (PTW), Architecture Upgrade, ALR 95 Geo-Location, ALR 95 Networking, and Tactical Common Data Link (TCDL). PCU will provide sensor and C4I modernization which will enhance the Carrier Strike Group/ Expeditionary Strike Group (CSG/ESG) integration and a bridge to the Multi-Mission Maritime Aircraft (MMA) architecture. The new ESM System includes Specific Emitter Identification (SEI) capability that permits the P-3 to passively detect, identify and track high interest targets at extremely distant ranges. Currently, the P-3 shares intelligence associated with SEI contacts only with ground-based Tactical Support Center. There is an urgent fleet requirement to ensure the P-3 can connect with other fleet and ISR platforms to exchange SEI contact information in real time. The FY04 Congressional Add provided the connectivity to allow the ALR-95 to conform to the Navy's standard tactical message format. The FY05 Congressional Add of \$1.5M will continue this effort.

The FY05 Congressional Add of \$1.5M for the ALR-95 RFD will upgrade the Radio Frequency Distribution system of the ALR-95 with fibre optic cable to reduce losses and improve performance.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604221N P-3 Modernization Program	PROJECT NUMBER AND NAME 9368 ALR-95 SEI Networking Program		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.250	2.971		
RDT&E Articles Quantity				
<p>The SEI system as deployed is not equipped to handle the large increase of high interest targets that have resulted from the wide-ranging war on terrorism. These shortcomings can be addressed with upgrades to the system. The system will be upgraded to conform to the Navy's standard tactical message format. In addition, upgraded CPU cards and SEI card sets will be selected and tested to change significantly the ability to handle many targets in a single area. The FY-05 Congressional Add for the ALR-95 RFD will upgrade the Radio Frequency Distribution system of the ALR-95 with fibre optic cable to reduce losses and improve performance.</p>				

R-1 SHOPPING LIST - Item No. 89

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604221N P-3 Modernization Program	PROJECT NUMBER AND NAME H9368 ALR-95 SEI Networking Program

C. PROGRAM CHANGE SUMMARY:

	FY 04	FY 05	FY 06	FY 07
Funding:				
Previous President's Budget:	1.286	0.000		
Current BES/President's Budget	1.250	2.971		
Total Adjustments	-0.036	2.971		
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.028		
Congressional rescissions				
SBIR/STTR Transfer	-0.035			
Other Adjustments		-0.001		
Economic Assumptions	-0.001			
Reprogrammings				
Congressional increases		3.000		
Subtotal	-0.036	2.971		

Schedule:

Not Applicable

Technical:

Not Applicable

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005																							
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604221N P-3 Modernization Program			PROJECT NUMBER AND NAME 9368 ALR-95 SEI Networking Program																									
<p>D. OTHER PROGRAM FUNDING SUMMARY:</p> <table border="1"> <thead> <tr> <th><u>Line Item No. & Name</u></th> <th><u>FY 2004</u></th> <th><u>FY 2005</u></th> <th><u>FY 2006</u></th> <th><u>FY 2007</u></th> <th><u>FY 2008</u></th> <th><u>FY 2009</u></th> <th><u>FY 2010</u></th> <th><u>FY 2011</u></th> <th>To <u>Complete</u></th> <th>Total <u>Cost</u></th> </tr> </thead> <tbody> <tr> <td>N/A</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>										<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	To <u>Complete</u>	Total <u>Cost</u>	N/A										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	To <u>Complete</u>	Total <u>Cost</u>																					
N/A																															
<p>E. ACQUISITION STRATEGY:</p> <p>Existing Sole Source FFP contract to EDO</p>																															

R-1 SHOPPING LIST - Item No. 89

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 21 of 25)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604221N P-3 Modernization Program			PROJECT NUMBER AND NAME 9551 - Personal Digital Assistant Maintenance Application			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		0.989						
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Personal Digital Assistant Maintenance Application Program (PDA MAP) will reduce paper data collection and manual data entry process associated with scheduled maintenance inspections. PDA MAP will improve efficiency, increase data collection accuracy, and reduce Naval Aviation Logistics Command Management Information System (NALCOMIS) data entry time.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604221N P-3 Modernization Program	PROJECT NUMBER AND NAME 9551 - Personal Digital Assistant Maintenance Application		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		0.989		
RDT&E Articles Quantity				
<p>The Personal Digital Assistant Maintenance Application Program (PDA MAP) will reduce paper data collection and manual data entry process associated with scheduled maintenance inspections. PDA MAP will improve efficiency, increase data collection accuracy, and reduce Naval Aviation Logistics Command Management Information System (NALCOMIS) data entry time.</p>				

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 23 of 25)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																							
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604221N P-3 Modernization Program	PROJECT NUMBER AND NAME 9551 - Personal Digital Assistant Maintenance Application																																																																								
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Congressional increases		1.000																																																																								
Subtotal	0.000	0.989	0.000	0.000																																																																						

R-1 SHOPPING LIST - Item No. 89

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604221N P-3 Modernization Program			PROJECT NUMBER AND NAME 9551 - Personal Digital Assistant Maintenance Application					
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
Not Applicable										
E. ACQUISITION STRATEGY:										
Sole source contract to Computer Products, Inc for the engineering and manufacturing development of the Personal Digital Assistant Maintenance Application.										

R-1 SHOPPING LIST - Item No. 89

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification					DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /					R-1 ITEM NOMENCLATURE 0604230N Naval Support System			
	BA 5							
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	1.927	5.152	2.275	2.285	2.438	1.444	1.484	1.519
4011 Naval Coastal Warfare	0.000	5.152	2.275	2.285	2.438	1.444	1.484	1.519
9370 Deployable Autonomous Distribution Systems	0.960	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9371 Integrated Condition Assessment System	0.967	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Quantity of RDT&E Articles								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Naval Coastal Warfare (NCW) community consists of 22 Mobile Inshore Undersea Warfare (MIUW) units and 8 Harbor Defense Command (HDC) units operating Mobile Ashore Support Terminal IIIs (MAST IIIs). NCW also includes 14 Inshore Boat Units (IBU) comprised of 6 small craft (boats) each on which are installed C4I systems .</p> <p>The Mobile Inshore Undersea Warfare - System Upgrade (MIUW-SU), the primary system used by the NCW MIUW Units, is the only land-based and rapidly deployable mobile Navy system with the ability to conduct surface and subsurface surveillance in coastal and littoral areas. The system provides detailed contact information via various C4I systems to the tactical area commander based on radar, visual, thermal, electronic, and underwater acoustic sensor information. Missions supported with the MIUW-SU's are: OCONUS and INCONUS Force Protection, protecting port areas, high value assets, and surveilling the near shore areas. The MAST III is the C4ISR hub for the NCW Commander. MAST IIIs deploy to support Force Protection/Force Security Officer for Commander, Amphibious Group in its Harbor Defense and Coastal Sea Control missions.</p> <p>In the aftermath of the attack on USS COLE and particularly post 11 SEP, the role, structure, and utilization for the NCW program has changed appreciably and continues to evolve in the face of developing world events. However, the core competencies resident in expeditionary NCW forces to conduct surveillance, C4I and patrol/interdiction have not changed. NCW remains a specialized force constituted to accomplish specific tasks under specific conditions, but also agile enough to fill emergent and non-traditional roles. Post 11 SEP, NCW Groups and Units have been mobilized to perform force protection missions at different levels in all CinC area of responsibility (AOR)'s and within the continental United States in support of Maritime Homeland Security.</p>								

R-1 SHOPPING LIST - Item No. 90

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 1 of 22)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	R-1 ITEM NOMENCLATURE 0604230N Naval Support System	
<p>This RDT&E exhibit supports the future direction of Naval Coastal Warfare as it is being determined externally by world events and internally by the progress of DoD initiatives to replace Cold War forces and capabilities with 21st century "transformational" forces and capabilities. NCW forces currently field legacy systems designed to counter more traditional military threats in a two Major Theater War scenario. Future NCW forces will develop into a highly effective, relatively low cost transformational force capable of operating anywhere in the world to perform a spectrum of force protection missions ranging from full scale port security/harbor defense operations during wartime to short duration point defense of high value units or facilities in operations other than war. This transformational force will be agile, tailorable, and scalable and will use applied technology to quickly detect, deter or interdict potential threats to DoN assets in the littoral environment. Next generation surface and subsurface surveillance systems, as well as enhanced C4I capabilities, are required to meet these operational objectives. These capabilities must be interoperable with higher and adjacent echelons of command (to include coalition allies) as well as with supporting elements to include joint forces.</p> <p>FY04 included two \$1M Congressional Add:</p> <ul style="list-style-type: none">- Deployable Autonomous Distribution Systems (DADS) - This effort tested the DADS sensors and technologies for Naval Coastal Warfare applicability, in particular, harbor mouth tripwire against the mini-sub threat. As part of this evaluation, the contractor will develop 2 to 3 sensor prototypes for operational evaluation. If laboratory and field testing prove successful, these prototypes could be used as the pre-production engineering models for follow-on production and fielding in Naval Coastal Warfare.- Integrated Condition Assessment System (ICAS) - This effort provides for "data mining" of ICAS data. Data mining is the processing of raw data into useful information to determine system anomalies. The funds will be used for development and testing data mining tools to extract meaningful data, develop rules for diagnostics and prognostics then present this information and results to the user in an easy to understand format using the existing ICAS system and development and testing advanced diagnostics and prognostics tools for ICAS equipped ship's machinery faults by exploiting existing data from the Navy's Maintenance Engineering Library Server (MELS). These tools will enable the reduction of maintenance requirements on auxiliary machinery and alert the crew to impending failures. <p>(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under SYSTEMS DEVELOPMENT AND DEMONSTRATION because it encompasses development and demonstration of new end-items prior to production approval decision .</p>		

R-1 SHOPPING LIST - Item No. 90

UNCLASSIFIED

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 2 of 22)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5		PROGRAM ELEMENT NUMBER AND NAME 0604230N Naval Support System			PROJECT NUMBER AND NAME 4011 Naval Coastal Warfare			
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Project Cost		0.000	5.152	2.275	2.285	2.438	1.444	1.484
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Naval Coastal Warfare (NCW) community consists of 22 Mobile Inshore Undersea Warfare (MIUW) units and 8 Harbor Defense Command (HDC) units operating Mobile Ashore Support Terminal IIIs (MAST iiis). NCW also includes 14 Inshore Boat Units (IBU) comprised of 6 small craft (boats) each on which are installed C4I systems .</p> <p>The Mobile Inshore Undersea Warfare - System Upgrade (MIUW-SU), the primary system used by the NCW MIUW Units, is the only land-based and rapidly deployable mobile Navy system with the ability to conduct surface and subsurface surveillance in coastal and littoral areas. The system provides detailed contact information via various C4I systems to the tactical area commander based on radar, visual, thermal, electronic, and underwater acoustic sensor information. Missions supported with the MIUW-SU's are: OCONUS and INCONUS Force Protection, protecting port areas, high value assets, and surveilling the near shore areas. The MAST III is the C4ISR hub for the NCW Commander. MAST IIIs deploy to support Force Protection/Force Security Officer for Commander, Amphibious Group in its Harbor Defense and Coastal Sea Control missions.</p> <p>In the aftermath of the attack on USS COLE and particularly post 11 SEP, the role, structure, and utilization for the NCW program has changed appreciably and continues to evolve in the face of developing world events. However, the core competencies resident in expeditionary NCW forces to conduct surveillance, C4I and patrol/interdiction have not changed. NCW remains a specialized force constituted to accomplish specific tasks under specific conditions, but also agile enough to fill emergent and non-traditional roles. Post 11 SEP, NCW Groups and Units have been mobilized to perform force protection missions at different levels in all CinC AOR's and within the continental United States in support of Maritime Homeland Security.</p> <p>This RDT&E exhibit supports the future direction of Naval Coastal Warfare as it is being determined externally by world events and internally by the progress of DoD initiatives to replace Cold War forces and capabilities with 21st century "transformational" forces and capabilities. NCW forces currently field legacy systems designed to counter more traditional military threats in a two Major Theater War scenario. Future NCW forces will develop into a highly effective, relatively low cost transformational force capable of operating anywhere in the world to perform a spectrum of force protection missions ranging from full scale port security/harbor defense operations during wartime to short duration point defense of high value units or facilities in operations other than war. This transformational force will be agile, tailorable, and scalable and will use applied technology to quickly detect, deter or interdict potential threats to DoN assets in the littoral environment. Next generation surface and subsurface surveillance systems, as well as enhanced C4I capabilities, are required to meet these operational objectives. These capabilities must be interoperable with higher and adjacent echelons of command (to include coalition allies) as well as with supporting elements to include joint forces.</p>								

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 3 of 22)

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME 0604230N Naval Support System	PROJECT NUMBER AND NAME 4011 Naval Coastal Warfare																	
(U) B. Accomplishments/Planned Program																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	0.640	0.000	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> FY05: Perform systems engineering analysis and integration activities associated with development of an Integrated Anti-Diver System (IADS) for Expeditionary Harbor Defense Operations. </div>																			
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Accomplishments/Effort/Subtotal Cost	0.000	4.042	2.065	2.075															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> FY05: Begin IADS analysis, architectural design, and design review processes. Conduct requirements tractability analysis to ensure operational requirements are adequately captured in performance and design specifications. Develop IADS acquisition strategy based on requirements. Conduct Preliminary Design Review (PDR) on hardware and software components. Test a prototype IADS against operational NCW scenarios and threats. Beginning in FY05 and continuing thru FY07, NCW will seek to leverage ongoing Home Land Security (HLS)/US Coast Guard, and Navy Shipboard Protection System (SPS) efforts in diver defense, to develop an integrated anti-diver system or IADS, tailored to the expeditionary NCW harbor defense mission. </div>																			
<div style="border: 1px solid black; padding: 5px;"> FY06: Perform systems engineering analysis and integration activities to integrate IADS into the NCW C4ISR architecture. Research and develop next generation NCW surveillance and C4I systems capabilities, to include new or improved Tactical Command and Control system, Electronic Systems Management, Anti-Submarine Warfare, Data Fusion, Autonomous Sensors, Small Craft Situational Awareness/Combat ID, improved IR cameras, auto detect and track software, and improved data recording technologies. Conduct advanced concept technology demonstrations for Sea Eagle. </div>																			
<div style="border: 1px solid black; padding: 5px;"> FY07: Provide system engineering and software/system integration activities with next generation C4ISR systems and sensors with an emphasis on Undersea Warfare capabilities. </div>																			
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RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> FY05: Perform initial development testing of hardware and software components. FY06/07: Development testing of hardware and software components, with emphasis on integration of new NCW technologies into Navy and Ashore AT/FP C4ISR architecture. </div>																			

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME 0604230N Naval Support System	PROJECT NUMBER AND NAME 4011 Naval Coastal Warfare																																																				
<p>(U) C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 10%; text-align: right;">FY 2004</th> <th style="width: 10%; text-align: right;">FY 2005</th> <th style="width: 10%; text-align: right;">FY 2006</th> <th style="width: 10%; text-align: right;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>(U) Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY05 President's Budget</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">5.201</td> <td style="text-align: right;">4.279</td> <td style="text-align: right;">3.272</td> </tr> <tr> <td>FY06 President's Budget</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">5.152</td> <td style="text-align: right;">2.275</td> <td style="text-align: right;">2.285</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">-0.049</td> <td style="text-align: right; border-top: 1px solid black;">-2.004</td> <td style="text-align: right; border-top: 1px solid black;">-0.987</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Other Program Adjustments</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">-0.003</td> <td style="text-align: right;">-2.004</td> <td style="text-align: right;">-0.987</td> </tr> <tr> <td> Section 8122: Assumed Management Improvements</td> <td></td> <td style="text-align: right;">-0.016</td> <td></td> <td></td> </tr> <tr> <td> Section 8131: Non-Statutory Funding Set Asides</td> <td></td> <td style="text-align: right;">-0.030</td> <td></td> <td></td> </tr> <tr> <td>Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">-0.049</td> <td style="text-align: right; border-top: 1px solid black;">-2.004</td> <td style="text-align: right; border-top: 1px solid black;">-0.987</td> </tr> </tbody> </table> <p style="margin-top: 20px;">(U) Schedule: Not Applicable</p> <p style="margin-top: 20px;">(U) Technical: Not Applicable</p>						FY 2004	FY 2005	FY 2006	FY 2007	(U) Funding:					FY05 President's Budget	0.000	5.201	4.279	3.272	FY06 President's Budget	0.000	5.152	2.275	2.285	Total Adjustments	0.000	-0.049	-2.004	-0.987	Summary of Adjustments					Other Program Adjustments	0.000	-0.003	-2.004	-0.987	Section 8122: Assumed Management Improvements		-0.016			Section 8131: Non-Statutory Funding Set Asides		-0.030			Subtotal	0.000	-0.049	-2.004	-0.987
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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5		PROGRAM ELEMENT NUMBER AND NAME 0604230N Naval Support System		PROJECT NUMBER AND NAME 4011 Naval Coastal Warfare				
(U) D. OTHER PROGRAM FUNDING SUMMARY:								
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
OPN 8120 Naval Coastal Warfare	32.591	26.977	30.876	13.187	12.975	12.766	13.039	13.313
Related RDT&E:								
PE 604230N/9370 Deployable Autonomous Distribution Systems	0.960	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(U) E. ACQUISITION STRATEGY:								
Not Applicable								
(U) F. Major Performers:								
SSC San Diego and SSC Charleston are the major performers. These activities perform systems engineering analysis and integration activities associated with next generation surveillance and C4I systems with focus on integration of existing joint, service, and non – DoD systems. SSC San Diego is the primary integrator for software and COTS/GOTS equipment.								

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Exhibit R-3 Cost Analysis (page 1)									DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA 5			0604230N Naval Support System			4011 Naval Coastal Warfare						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Product Development	WX	SSC CH/SSC SD		2.244	02/05	0.696	10/05	0.673	10/06	Continuing	Continuing	
Systems Engineering	WX	SSC CH/SSC SD		2.258	02/05	0.549	10/05	0.552	10/06	Continuing	Continuing	
Training Development	WX	SSC CH/SSC SD		0.200	02/05	0.220	10/05	0.240	10/06	Continuing	Continuing	
Subtotal Product Development			0.000	4.702		1.465		1.465		Continuing	Continuing	
Remarks:												
Technical Data	WX	SSC CH/SSC SD		0.100	02/05	0.100	10/05	0.100	10/06	Continuing	Continuing	
Subtotal Support			0.000	0.100		0.100		0.100		Continuing	Continuing	
Remarks:												

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA 5			PROGRAM ELEMENT 0604230N Naval Support System				PROJECT NUMBER AND NAME 4011 Naval Coastal Warfare						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Program Management Support	WX	SSC CH/SSC SD		0.300	02/05	0.310	10/05	0.320	10/06	Continuing	Continuing		
Travel	Various	Various		0.050	02/05	0.400	10/05	0.400	10/06	Continuing	Continuing		
Subtotal Management			0.000	0.350		0.710		0.720		Continuing	Continuing		
Remarks:													
Total Cost			0.000	5.152		2.275		2.285	VARIOUS	Continuing	Continuing		
Remarks:													

R-1 SHOPPING LIST - Item No. 90

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:											
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA 5												0604230N Naval Support System												4011 Naval Coastal Warfare											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
Acquisition Milestones																																			
Engineering Milestones						▲		▲	▲			▲	▲			▲	▲			▲	▲			▲	▲			▲	▲			▲			
						PDR		CDR	PDR			CDR	PDR			CDR	PDR			CDR	PDR			CDR	PDR			CDR	PDR			CDR			
Prototype Phase																																			
Development																																			
Delivery																																			
Test & Evaluation Milestones							▲				▲				▲					▲						▲					▲				
Development Test							DT				DT				DT					DT						DT					DT				
Operational Test																																			

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Exhibit R-4a, Schedule Detail						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT 0604230N Naval Support System				PROJECT NUMBER AND NAME 4011 Naval Coastal Warfare			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Preliminary Design Review (PDR)		2Q	1Q	1Q	1Q	1Q	1Q	1Q
Critical Design Review (CDR)		4Q	4Q	4Q	4Q	4Q	4Q	4Q
Developmental Test and Evaluation		3Q	3Q	3Q	3Q	3Q	3Q	3Q

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 10 of 22)

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EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5		PROGRAM ELEMENT NUMBER AND NAME 0604230N Naval Support System			PROJECT NUMBER AND NAME 9370 Deployable Autonomous Distribution Systems			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	0.960	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Deployable Autonomous Distribution Systems (DADS) - This effort tested the DADS sensors and technologies for Naval Coastal Warfare applicability, in particular, harbor mouth tripwire against the mini-sub threat. As part of this evaluation, the contractor developed a sensor prototype for operational evaluation. If laboratory and field testing prove successful, these prototypes could be used as the pre-production engineering models for follow-on production and fielding in Naval Coastal Warfare.

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 11 of 22)

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME 0604230N Naval Support System	PROJECT NUMBER AND NAME 9370 Deployable Autonomous Distribution Systems																	
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.119	0.000	0.000	0.000															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%; text-align: center;">FY 04</td> <td style="width: 15%; text-align: center;">FY 05</td> <td style="width: 15%; text-align: center;">FY 06</td> <td style="width: 15%; text-align: center;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">0.771</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <p>FY04: Began analysis, architectural design, and design review processes. Conducted requirements traceability analysis to ensure operational requirements are adequately captured in performance and design specifications. Developed acquisition strategy based on requirements. Conducted Preliminary Design Review (PDR) on hardware and software components. Utilized analysis, architectural design, and design review processes to design, develop, document, and implement surface / surveillance sensors and C4I system upgrades. Conducted Critical Design Review (CDR) on hardware and software components.</p> </div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.771	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.771	0.000	0.000	0.000															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%; text-align: center;">FY 04</td> <td style="width: 15%; text-align: center;">FY 05</td> <td style="width: 15%; text-align: center;">FY 06</td> <td style="width: 15%; text-align: center;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">0.070</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <p>FY04: Performed initial development testing of hardware and software components.</p> </div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.070	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.070	0.000	0.000	0.000															
RDT&E Articles Quantity																			

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME 0604230N Naval Support System	PROJECT NUMBER AND NAME 9370 Deployable Autonomous Distribution Systems		

(U) C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
(U) Funding:				
FY05 President's Budget	0.988	0.000	0.000	0.000
FY06 President's Budget	0.960	0.000	0.000	0.000
Total Adjustments	-0.028	0.000	0.000	0.000
Summary of Adjustments				
FY04 Non-pay Inflation Savings	-0.001			
FY04 SBIR	-0.027			
Subtotal	-0.028	0.000	0.000	0.000

(U) Schedule:
Not Applicable

(U) Technical:
Not Applicable

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5		PROGRAM ELEMENT NUMBER AND NAME 0604230N Naval Support System			PROJECT NUMBER AND NAME 9370 Deployable Autonomous Distribution Systems			
(U) D. OTHER PROGRAM FUNDING SUMMARY:								
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
OPN 8120 Naval Coastal Warfare	32.591	26.977	30.876	13.187	12.975	12.766	13.039	13.313
Related RDT&E:								
PE 604230N/4011 Naval Coastal Warfare	0.000	5.152	2.275	2.285	2.438	1.444	1.484	1.519
(U) E. ACQUISITION STRATEGY:								
Not Applicable								
(U) F. Major Performers:								
SSC San Diego is the prime with USSI the subcontractor under this funding, and the award was made in 2Q of FY04, following receipt of funds in December 2003. Funds were provided via Congressional Add to provide for upgrade of Mobile Inshore Undersea Warfare units with Deployable Autonomous Distributed Systems.								

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5			PROGRAM ELEMENT 0604230N Naval Support System				PROJECT NUMBER AND NAME 9370 Deployable Autonomous Distribution Systems						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Product Development	Cost Plus	USSI	0.799								0.799		
Systems Engineering	WX	SSC SD	0.040								0.040		
Training Development	WX	SSC SD	0.010								0.010		
Subtotal Product Development			0.849	0.000		0.000		0.000		0.000	0.849		
Remarks:													
Development Support	WX	SSC SD	0.030								0.030		
Software Development	WX	SSC SD	0.009								0.009		
Configuration Management	WX	SSC SD	0.020								0.020		
Technical Data	WX	SSC SD	0.010								0.010		
Subtotal Support			0.069	0.000		0.000		0.000		0.000	0.069		
Remarks:													

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E, N / BA 5			0604230N Naval Support System				9370 Deployable Autonomous Distribution Systems						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Developmental Test & Evaluation	WX	SSC SD	0.042										
Subtotal T&E			0.042	0.000		0.000		0.000		0.000	0.042		
Remarks:													
Total Cost			0.960	0.000		0.000		0.000		0.000	0.960		
Remarks:													

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:															
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME												February 2005			
RDT&E, N / BA 5												0604230N Naval Support System												9370 Deployable Autonomous Distribution Systems															
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011										
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4											
Acquisition Milestones																																							
Engineering Milestones			▲ PDR			▲ CDR																																	
Prototype Phase																																							
Development																																							
Delivery																																							
Test & Evaluation Milestones						▲																																	
Development Test						DT																																	
Operational Test																																							

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT 0604230N Naval Support System				PROJECT NUMBER AND NAME 9370 Deployable Autonomous Distribution Systems			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Preliminary Design Review (PDR)	3Q							
Critical Design Review (CDR)		2Q						
Developmental Test and Evaluation		2Q						

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 18 of 22)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5		PROGRAM ELEMENT NUMBER AND NAME 0604230N Naval Support System				PROJECT NUMBER AND NAME 9371 Integrated Condition Assessment System					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011		
Project Cost		0.967	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
RDT&E Articles Qty											
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>Integrated Condition Assessment System(ICAS) \$1.0M Congressional Add provides for "data mining" of ICAS data. Data mining is the processing of raw data into useful information to determine system anomalies. The funds will be used for:</p> <p>Development and testing data mining tools to extract meaningful data, develop rules for diagnostics and prognostics then present this information and results to the user in an easy to understand format using the existing ICAS system. Development and testing advanced diagnostics and prognostics tools for ICAS equipped ship's machinery faults by exploiting existing data from the Navy's Maintenance Engineering Library Server (MELS). These tools will enable the reduction of maintenance requirements on auxiliary machinery and alert the crew to impending failures.</p>											

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification (Page 1)			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604230N - RDT&E,N Warfare Support System	PROJECT NUMBER AND NAME 9371 - RDT&E Integrated Condition Assessment System (ICAS)		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.967	0.000	0.000	0.000
RDT&E Articles Quantity				
<p>The FY04 ICAS \$1.0M R&D (SPAWAR cognizance) is for "data mining" of ICAS data. "Data mining" is the processing of raw data into useful information to determine system anomalies. The funds will be used for: Development and testing data mining tools to extract meaningful data, develop rules for diagnostics and prognostics then present this information and results to the user in an easy to understand format using the existing ICAS system. Development and testing advanced diagnostics and prognostics tools for ICAS equipped ship's machinery faults by exploiting existing data from the Navy's Maintenance Engineering Library Server (MELS). These tools will enable the reduction of maintenance requirements on auxiliary machinery and alert the crew to impending failures.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME 0604230N Naval Support System	PROJECT NUMBER AND NAME 9371 - RDT&E Integrated Condition Assessment System (ICAS)		
(U) C. PROGRAM CHANGE SUMMARY:				
(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY05 President's Budget	0.988	0.000	0.000	0.000
FY06 President's Budget	0.967	0.000	0.000	0.000
Total Adjustments	-0.021	0.000	0.000	0.000
Summary of Adjustments				
FY04 Non-pay Inflation Savings	-0.001			
FY04 SBIR	-0.020			
Subtotal	-0.021	0.000	0.000	0.000
(U) Schedule: Not Applicable				
(U) Technical: Not Applicable				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005					
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME 0604230N Naval Support System	PROJECT NUMBER AND NAME 9371 - RDT&E Integrated Condition Assessment System (ICAS)						
(U) D. OTHER PROGRAM FUNDING SUMMARY:								
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
N/A								
Related RDT&E:								
N/A								
(U) E. ACQUISITION STRATEGY:								
Not Applicable								
(U) F. Major Performers:								
NSWC, Philadelphia								

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE:	
							February 2005	
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE			
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					0604231N - TACTICAL COMMAND SYSTEM			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	65.004	59.499	51.177	50.640	53.330	56.078	57.388	58.537
2213 MISSION PLANNING	24.239	15.024	9.362	8.749	9.075	9.685	9.878	10.070
0486 Tactical Support Center/GCCS-M TACMOBILE	1.245	1.201	1.138	1.357	1.396	1.426	1.464	1.496
0521 Shipbaord Tactical Intel/GCCS-M INTELLIGENCE APPLICATIONS	2.565	2.937	2.990	3.622	3.698	3.773	3.852	3.924
0709 GCCS-M MARITIME APPLICATIONS	6.974	5.984	7.167	7.766	7.940	8.096	8.274	8.438
2009 OIS Evolutionary Development/TRUSTED INFORMATION SYSTEMS	2.120	1.463	2.148	1.840	1.662	1.480	1.509	1.536
2305 GCCS-M COMMON APPLICATIONS	9.936	8.959	9.779	6.785	7.051	7.287	7.555	7.800
2307 Shipboard LAN/WAN/INTEGRATED SHIPBOARD NETWORK SYSTEM	1.027	1.661	3.052	3.240	3.346	3.421	3.509	3.589
3032 NTCSS ENTERPRISE DATABASE AND MLDN	3.144	0.070	0.048	0.048	0.055	0.053	0.053	0.054
9123 FORCENET	9.668	15.473	15.493	17.233	19.107	20.857	21.294	21.630
9372 3D COMMON OPERATIONAL PICTURE	1.636	2.566	0.000	0.000	0.000	0.000	0.000	0.000
9373 AN/UYQ-70 BASED IT-21 C4SIR UPGRADES	2.450	4.161	0.000	0.000	0.000	0.000	0.000	0.000
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
The Tactical Command System (TCS) upgrades the Navy's Command, Control, Computer and Intelligence (C3I) systems and processes C3I information for all warfare mission areas including planning, direction and reconstruction of missions for peacetime, wartime and times of crises.								
GCCS-M: A major component of the TCS is the Global Command and Control System - Maritime (GCCS-M). GCCS-M is the Navy's fielded Command and Control system, a key component of the FORCenet C4ISR strategy, and is the Navy's tactical implementation of the Global Command and Control System (GCCS). GCCS-M has aggressively pursued an evolutionary acquisition strategy in rapidly developing and fielding new C4I capabilities for GCCS-M Afloat, GCCS-M Ashore, GCCS-M Tactical/Mobile and TIS users. GCCS-M current phase includes continued usage of the Defense Information Infrastructure Common Operating Environment (DII COE), as stipulated by the Joint Technical Architecture, incorporation of Fleet requirements for merging tactical and non-tactical networks, and application of mature Web and Personal Computer (PC) technologies to provide required information/capabilities. This phase will provide, in the short term, deployment of an integrated UNIX/PC/COTS based Naval implementation of GCCS-M which will provide the warfighter with a cost-effective, user-friendly, comprehensive C4I solution and, in the long-term, a continuous, integrated Command and Control link from sensor to shooter, including full-range real-time or near-real-time information to weapon systems for decision makers. In FY05, GCCS-M will begin migration to Joint Command and Control (JC2) development in coordination with the Joint Command and Control (JC2) Program.								

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 1 of 105)

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE:	February 2005
APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /BA-5		0604231N - TACTICAL COMMAND SYSTEM	
<p>Additionally, this budget provides funding for the following:</p> <p>Shipboard LAN/WAN - Integrated Shipboard Network Systems (ISNS): The Integrated Shipboard Network System (ISNS) provides Navy ships with reliable, high-speed SECRET and UNCLASSIFIED Local Area Network (LAN)s, providing the network infrastructure (switches and drops to the PC), Basic Network Information Distribution Services (BNIDS) and access to the DISN Wide Area Network (WAN) (Secure and Nonsecure Internet Protocol Router Network -SIPRNET and NIPRNET) which are used by other hosted applications or systems such as Naval Tactical Command Support System (NTCSS), Global Command and Control System - Maritime (GCCS-M), Defense Messaging System (DMS), Navy Standard Integrated Personnel System (NSIPS), Navy Marine Corps Portal (NMCP), Naval Mission Planning System (NAVMPS), Theater Battle Management Core Systems (TBMCS), and Tactical Tomahawk Weapons Control System (TTWCS) . It enables real-time information exchange within the ship and between afloat units, Component Commanders, and Fleet Commanders and is a key factor in the implementation of the Navy's portion of Joint Vision 2020. Funding supports the design, development and testing of the ISNS LAN for surface ships.</p> <p>CENRIX: The Combined Enterprise Regional Information Exchange System (CENTRIXS) program provides Navy ships with a reliable, high-speed Local Area Network (LAN) that will provide access to the coalition (Four Eyes, Global Counter Terrorism Task Force (GCTF), CENTRIXS J and K, Multinational Coalition Force Iraq (MCFI) and all other bilaterals) Wide Area Network (WAN). It provides real-time information exchange between afloat units, Component Commanders, numbered Fleet Commanders and Commanders LANT/PAC Fleet through the migration of existing legacy systems into the ISNS strategy, full synchronization of shipboard networks, mission and information applications and Radio/Satellite communications and shore data dissemination infrastructure, installations are necessary to ensure end-to-end capability. The CENTRIXS program maximizes the use of both COTS software and hardware resulting in dependence of commercial support. Engineering and technical support is provided so that existing systems will be upgraded/modified to keep pace with the commercial community.</p> <p>CENTRIXS RDT&E Project funding supports the development of acquisition documentation essential to the program. The goal for the CENTRIXS program is to provide a cost-efficient operationally effective network that dramatically reduces the infrastructure requirements, while maximizing operational flexibility in a coalition environment. MLTC initiatives include Server Virtualization Development, which provides the ability to run multiple virtual servers on a single server. Additionally, this funding provides design, developing and testing of the Unit level MLS/MLTC system that will reduce drop requirements while minimizing server and client footprint and migration testing with the existing Force level design from CENTRIXS to Microsoft software baseline will reduce software costs.</p> <p>Submarine Local Area Network (SubLAN): The SubLAN program provides Navy submarines, with reliable, high-speed SECRET and UNCLASSIFIED Local Area Network (LAN)s. When the SubLAN network is combined with other subsystems, it will deliver an end to end network-centric warfare capability. The SubLAN program is comprised of two increments - SubLAN 1 and SubLAN 2. SubLAN 1 provides network infrastructure including an Unclassified Wireless Local Area Network (UWLAN), servers, and the Common PC Operating System Environment (COMPOSE), which provides the server and operating system environment for other applications such as Non Tactical Data Processing System (NTDPS) and Navy/Marine Corps Portal (NMCP). SubLAN 2 provides a full complement of SIPRNET drops, SCI drops, additional switch/backbone capacity, and improved reliability upgrades to SubLAN 1. Funding supports the design, development and testing of the SubLAN for submarines.</p>			

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 2 of 105)

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5	R-1 ITEM NOMENCLATURE 0604231N - TACTICAL COMMAND SYSTEM	
<p>Navy Tactical Command Support System (NTCSS) Enterprise Database and Maritime Logistics Data Network (MLDN): This RDT&E Project funding supports design, development and testing of two components of the NTCSS web initiative, NTCSS Enterprise Database and Maritime Logistics Data Network (MLDN). The development of a web-enabled enterprise database for NTCSS application will place all NTCSS databases into a similar structure, allowing greater interoperability between applications. MLDN will facilitate the movement of administrative workload from ships to shore.</p> <p>FORCEnet: Initiatives include the necessary Transformation Master Planning required across all management execution horizons (Near/Mid/Long-Term) to evolve towards a fully-netted human centrically optimized combat force structure. FORCEnet efforts will serve as the transformational change agent for the integration of all Navy and Marine Corps mission capabilities, system and human-centric architectures coupled with enabling technologies grounded in a business-based program order-of-buy approach combined with the technical program management/execution responsibilities leading Navy and Marine Corps transformational capabilities towards a fully netted combat force. FORCEnet is the architecture and building blocks of sensors, networks, decision aids, weapons, warriors and supporting systems integrated into a highly adaptive, human-centric, comprehensive system that operates from seabed to space, from sea to land.</p> <p>Mission Planning: The goal of the NavMPS Program Team is to develop scaleable, extensible, and configurable planning systems to meet a full range of automated mission planning needs. NavMPS products (includes the Joint Mission Planning System (JMPS)) provides the information, automated tools, and decision aids needed to rapidly plan aircraft, weapon, or sensor missions and post-mission analysis of recorded data. JMPS is a co-development effort between the USN, USAF, USA, and SOCOM under the Multi-Service Joint Enterprise Management Team (JEMT). Requirements are identified and capabilities are developed in an evolutionary concept in order to address world situation requirements for mission planning and precision guided missile deployment.</p> <p>FY04 and FY 05 includes Congressional Adds for 3D Common Operational Picture (COP) and AN/UYQ-70 Based IT-21 C4IS upgrades.</p>		

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System			PROJECT NUMBER AND NAME 2213 Mission Planning			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	\$24.239	\$15.024	\$9.362	\$8.749	\$9.075	\$9.685	\$9.878	\$10.070
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Joint Mission Planning System (JMPS) is a scaleable, extensible, and configurable open architecture designed to meet a full range of automated mission planning needs. JMPS will provide the information, automated tools, and decision aids needed to rapidly plan for aircraft, weapon, or sensor missions. JMPS will be a Defense Information Infrastructure/Common Operating Environment (DII/COE) compliant mission planning system, which will meet future DOD requirements for interoperability within and across DOD C4I systems. JMPS utilizes a standardized environment for mission planning systems (the Joint Mission Planning Environment (JMPE) that provides a DII COE/Joint Technical Architecture (JTA) compliant Windows 2000 framework, a mission planning infrastructure of basic databases, management tools, and framework services, and set a common flight and mission planning components. JMPS is a combination of the JMPE together with platform/weapon unique components and the necessary system hardware to meet user mission planning needs. Individual platform, weapon, and avionic programs will develop program specific functionality (known as Unique Planning Components) that are integrated with the JMPS framework to provide an integrated systems solution.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System	PROJECT NUMBER AND NAME 2213 Mission Planning		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	19.916	4.700		
RDT&E Articles Quantity				
<p>JMPS 1.0 and 1.1 Development Effort- JMPS 1.0 and 1.1 support D/T & O/T; nomination and assessment of JMPS 1.1 contract incentive fees; continue JMPS 1.1 builds to correct discrepancies identified during systems testing. Continue systems testing, start Unique Planning Component (UPC) testing; System of Systems testing, and UPC validations; contract incentive fee. <u>D/T Support</u>--JMPS 1.1 Pre-O/T Readiness Review and began JMPS 1.1 O/T late in FY04. Engineering Logistics & Management support.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	4.323	10.324	9.362	8.749
RDT&E Articles Quantity				
<p>Continue JMPS 1.2.3 builds to enhance capabilities identified during systems testing. Continue systems testing, start UPC testing, System of Systems testing, and UPC validations. Develop Betas & Version Releases for Framework components & enhanced operability. Develop dynamic replanning capabilities.</p>				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
			February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N / BA-5	0604231N Tactical Command System	2213 Mission Planning		
C. PROGRAM CHANGE SUMMARY:				
Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY 2005 President's Budget	25.018	10.973	10.310	9.596
FY 2006 President's Budget	24.239	15.024	9.362	8.749
Total Adjustments	-0.779	4.051	-0.948	-0.847
Summary of Adjustments				
Congressional Program Reductions				
Congressional Undistributed Reductions		-0.136		
Congressional Rescissions				
SBIR/STTR Transfer	-0.684			
Programmatic Adjustments		-0.013	-1.040	-0.958
Economic Assumptions	-0.023		0.092	0.111
Reprogrammings	-0.072			
Congressional Increases		4.200		
	-0.779	4.051	-0.948	-0.847
Schedule: Acquisition Milestones from PB05 (JV1=JMPS V 1.0 and JC1=JMPS V 1.1 to follow software configuration naming convention)				
General Information:				
JMPS Version 1.0 (Change 2 dated 2 Apr 01); Objective Aug 03, Threshold Feb 04 dates are obsolete as MDA issued the decision not to field Version 1.0.				
JMPS Version 1.1 (Change 2 dated 2 Apr 01), Objective Mar 04, Threshold Sep 04 reflect the official dates in the Acquisition Program Baseline Document.				
JMPS V1.1	JMPS V 1.1 Unique Planning Component Readiness Review (UPCRR) completed 4 Dec 03 (1Q FY-04)			
	JMPS V 1.1 Operational Assessment (DT Assist) was conducted 15-18 Dec 03 (1Q-FY-04); multiple system integration issues discovered.			
	JMPS V 1.1 Operational Test Readiness Review (OTRR) OTRR date moved to 4Q FY-04.			
	UPC Validation date changed from 1Q-2Q FY-04 to 1Q-4Q FY-04 due to the completion date of the JMPS V 1.1 UPCRR milestone and OA event in 1Q FY-04 and the subsequent revised phased validation process that will ended 4Q FY-04.			
JMPS V1.2.3	JMPS V 1.2.3 and related milestones are identified.			
Test & Evaluation Milestones				
JMPS V1.1 System Test dates moved to 1Q-4Q FY-04 as a result of integration issues discovered during OA (DT Assist), TPWG and subsequent test events (Battlespace Integration (BSI) #1 and #2). BSI #1 and #2 were conducted 1Q and 3Q FY-04.				
UPC Integration/Validation to 1Q-4Q FY-04 in support of a JMPS V1.1 OTRR date planned for 4Q FY-04.				
JMPS V 1.1 Operational Test Readiness Review (OTRR) to 4Q FY-04 due to schedule changes necessary to correct deficiencies discovered during OA (DT Assist) and BSI # 1 and #2 test events.				
Production Milestones				
JMPS IOC date changed from 1Q FY-05 to 4Q FY-04 due to the accelerated release of the E-2C Mission Planning Environment.				
Technical:	Not applicable			

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 6 of 105)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System			PROJECT NUMBER AND NAME 2213 Mission Planning					
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
BLI 287600 TAC A/C Mission Planning System (OPN)	8.539	9.042	7.857	8.338	8.668	8.916	9.100	9.290	Continuing	Continuing
Related RDT&E:										
PE 0208006F Air Force Mission Support System (Total)	51.645	136.701	143.154	196.749	148.541	96.314	Continuing	Continuing	Continuing	Continuing
(U) E. ACQUISITION STRATEGY:										
<p>The NavMPS program follows an Evolutionary Acquisition (EA) approach with baseline capability developed through a series of phased software expansions. Tactical A/C Mission Planning System (TAMPS) was the initial system developed and fielded with the addition of the Air Force-developed Portable Flight Planning Software in 1998 which rounded out the fielded system capabilities (defined in the TAMPS ORD). Future upgrades to the NavMPS will provide enhanced capability for combat and force-level planning, and in Command, Control, Communications, Computers, and Intelligence (C4I) support. JMPS-M Phase 0 is the baseline for naval mission planning and consists of the legacy UNIX-based TAMPS system and N-PFPS. JMPS-M Phase 1 consists of the underlying architecture that will provide the foundation for future capability builds and includes the basic flight-planning capabilities required by all naval aviation platforms. JMPS-M Phase 2 adds combat-level planning capabilities critical to support precision guided munitions, aircraft avionics systems, and tactical sensors through data load transfers from the mission planning system to the aviation platforms. JMPS-M Phase 2 enables TAMPS to be removed from ship and unit mission-planning spaces. JMPS-M Phase 3 will consist of those command-level tools.</p>										

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME							
RDT&E, N / BA-5			0604231N Tactical Command System			2213 Mission Planning							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Primary Software Dev JMPS 1.0	SS/CPIF/AF	NGIT, VA	32.677								32.677	32.677	
Primary Software Dev JMPS 1.1	SS/CPIF/AF	NGIT, VA	24.151								24.151	24.151	
Primary Software Dev N-PFPS	MP	Eglin AFB, Florida	7.905								7.905		
Primary Software N-PFPS	MP	Hill AFB, Utah	1.422								1.422		
Primary Software Dev JMPS 1.2.3	MP	NGIT, VA	3.837	5.826	11/04	1.500	11/05	1.200	11/06	Continuing	Continuing		
Training Development													
Licenses													
Tooling													
GFE	MP	Eglin AFB, Florida											
Award Fees	SS/CPIF/AF	NAVAIR, Pax River, MD	6.705								6.705	6.705	
Subtotal Product Development			76.697	5.826		1.500		1.200		Continuing	Continuing		
Remarks:													
Development Support													
Software Development													
Integrated Logistics Support	WX	SPAWAR, Phila. PA	3.862	1.189	11/04	1.189	11/05	1.189	11/06	Continuing	Continuing		
Integrated Logistics Support	WX	NAWCAD, Pax River, MD	2.578								2.578		
Technical Data													
Studies & Analyses													
GFE													
Award Fees													
Subtotal Support			6.440	1.189		1.189		1.189		Continuing	Continuing		
Remarks:													

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 8 of 105)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE, N / BA-5			0604231N Tactical Command System			2213 Mission Planning						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	SPAWAR, Phila., PA	0.859								0.859	
Operational Test & Evaluation	WX	OPTEVFOR, VA	2.656								2.656	
Live Fire Test & Evaluation												
Test Assets												
Systems Eng. Integration & Test	WX	NAWCWD, Pt Mugu, CA		4.507	11/04	4.040	11/05	3.802	11/06	Continuing	Continuing	
GFE												
Award Fees												
Subtotal T&E			3.515	4.507		4.040		3.802		Continuing	Continuing	
Remarks:												
Contractor Engineering Support												
Government Engineering Support	WX	NAWCAD, Pax River, MD	3.811	0.250	11/04	0.333	11/05	0.358	11/06	Continuing	Continuing	
Program Management Support	RX	NAVAIR PAX	2.440	2.736	11/04	2.000	11/05	2.000	11/06	Continuing	Continuing	
Travel	WX	NAWCAD, Pax River, MD	0.748	0.516	11/04	0.300	11/05	0.200	11/06	Continuing	Continuing	
Transportation												
Government Engineering Support	WX	NAWCWD, Pt Mugu, CA	8.705								8.705	
Subtotal Management			15.704	3.502		2.633		2.558		Continuing	Continuing	
Remarks:												
Total Cost			102.356	15.024		9.362		8.749		Continuing	Continuing	
Remarks:												

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Exhibit R-2a, RDTE Project Justification
(Exhibit R-2a, page 9 of 105)

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-5									0604231N Tactical Command System												2213 Naval Mission Planning											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																																
JMPS 1.1 UPCRR	▲																															
JMPS 1.1 OA (DT ASSIST)	▲																															
JMPS 1.1 OTRR				△																												
JMPS 1.1 OT				△																												
JMPS 1.2.3 OTRR							△																									
JMPS V 1.2.3 OT									△																							
JMPS V 1.2.3.1 to V1.2.3.5 OT													1.2.3.1 △				1.2.3.2 △				1.2.3.3 △				1.2.3.4 △				1.2.3.5 △			
Test & Evaluation Milestones																																
JMPS V 1.1																																
System Test																																
UPC Integration/Validation																																
JMPS 1.2.3 FQT							△																									
JMPS 1.2.3 DT							△																									
JMPS V 1.2.3 System Test																																
UPC Integration/Validation																																
Production Milestones																																
JMPS 1.1 IOC				△																												
JMPS 1.2.3 IOC										△																						
Deliveries																																

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Exhibit R-4a, Schedule Detail						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&BA-5	PROGRAM ELEMENT 0604231N Tactical Command System				PROJECT NUMBER AND NAME 2213 Naval Mission Planning			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Acquisition Milestones								
JMPS V 1.1								
JMPS 1.1 UPCRR	1Q							
JMPS 1.1 OA (DT ASSIST)	1Q							
JMPS 1.1 OTRR	4Q							
JMPS 1.1 OT	4Q							
JMPS 1.2.3 OTRR		3Q						
JMPS V 1.2.3 OT			1Q					
JMPS V 1.2.3.1 TO V 1.2.3.5 OT				1Q	1Q	1Q	1Q	1Q
Test & Evaluation Milestones								
JMPS V 1.1								
System Test	1Q-4Q							
UPC Integration/Validation	1Q-4Q							
JMPS 1.2.3								
JMPS 1.2.3 FQT		2Q						
JMPS DT		2Q						
UPC Integration/Validation		2Q-3Q						
System Test		2Q-3Q						
Production Milestones								
JMPS V 1.1 IOC	4Q							
JMPS V 1.2.3 IOC			2Q					

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 11 of 105)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM				PROJECT NUMBER AND NAME 0486 Tactical Support Center/GCCS-M TACMOBILE					
COST (\$ in Millions)			FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
Project Cost			\$1.245	\$1.201	\$1.138	\$1.357	\$1.396	\$1.426	\$1.464	\$1.496	
RDT&E Articles Qty											
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Global Command and Control System-Maritime (GCCS-M) Tactical/Mobile program provides evolutionary systems and equipment upgrades to support Maritime Sector Commanders with the capability to plan, direct and Control the tactical operations of Joint and Naval Expeditionary Forces and other assigned units within their respective area of responsibility. These operations include littoral, open ocean, and over land all-sensor surveillance, anti-surface warfare, over-the-horizon targeting, counter-drug operations, power projection, antisubmarine warfare, mining, search and rescue, and special operations.</p> <p>The missions are supported by the Tactical Support Centers (TSCs) and the Mobile Operations Control Centers (MOCCs). Services provided include analysis and correlation of diverse sensor information; data management support; command decision aids; rapid data communication; mission planning and evaluation and dissemination of surveillance data and threat alerts to operational users ashore and afloat. All Tactical/Mobile systems are based on the GCCS-M architecture, which is Defense Information Infrastructure (DII) Common Operating Environment (COE) compliant.</p> <p>TSCs provide C4I capability, air-ground, satellite and point-to-point communications systems; sensor analysis capabilities; avionics and weapons system interfaces and facilities equipment. MOCC is a scalable and mobile version of the TSC for operations from airfields that do not have TSC support. This program assures that existing TSCs and MOCCs are modernized to fulfill their operational requirements. TSC/MOCC will continue to support P-3C/S-3B aircraft updates to sensors and weapons systems, such as the Anti-Surface Warfare Improvement Program (AIP), as well as develop emergent, ground support capabilities for the Multi-Mission Aircraft (MMA) and Broad Area Maritime Unmanned Aerial Vehicle BAMS UAV).</p> <p>GCCS-M Tac/Mobile R&D efforts are developed in agreement with and in mutual support of OPNAV N62 and N78. These efforts are required to provide support for the N78 platforms as related to the non-C2 aspects of the program. In FY05, GCCS-M will begin migration to Joint Command and Control (JC2) development in coordination with the Joint Command and Control (JC2) Program.</p>											

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<p>(U) B. Accomplishments/Planned Program</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">0.227</td> <td style="text-align: center;">0.199</td> <td style="text-align: center;">0.205</td> <td style="text-align: center;">0.340</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>Develop interface documentation based on joint and coalition SATCOM and line of sight radios, cryptographic units and antenna technology. Ensure interoperability in a land, sea, air, and mobile environment. Investigate and initiate integration of Joint Tactical Radio System (JTRS) compliant radio such as Digital Modular Radio (DMR) as replacement for obsolete VME Integrated Communications Systems (VICS) radio. Design and test new interfaces between JTRS compliant Radio and other TSC/MOCC elements. Continue development activities necessary to stay current with joint and coalition SATCOM and line of sight radios, cryptographic units, antenna technology and the USN/DoD satellite replacement programs. Perform necessary analysis and update TacMobile technical Roadmap documentation to ensure compliance with Navy and Joint communications interoperability requirements (Forcenet, GIG, etc) and implementations that support NetCentric, IP addressing. Conduct testing of air platform support systems and data exchange devices for incorporation into baseline systems for deployment.</p> </div> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">0.412</td> <td style="text-align: center;">0.453</td> <td style="text-align: center;">0.350</td> <td style="text-align: center;">0.450</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>Improve the acoustic Fast Time Analysis System (FTAS) to increase reliability of the obsolete proprietary hardware, by incorporating Commercial Off The Shelf (COTS) technology, and by incorporating new functionality in support of emerging aircraft acoustic replay capabilities. Develop a detailed set of requirements for follow-on system to include NetCentric, IP addressable functionality. Continue development of new capabilities to support post-flight analysis of acoustic data collected from similar capabilities development for Maritime Patrol Aircraft (MPA).</p> </div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.227	0.199	0.205	0.340	RDT&E Articles Quantity						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.412	0.453	0.350	0.450	RDT&E Articles Quantity				
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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																							
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 0486 Tactical Support Center/GCCS-M TACMOBILE																																																																								
<p>(U) C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"></th> <th style="text-align: right;">FY 2004</th> <th style="text-align: right;">FY 2005</th> <th style="text-align: right;">FY 2006</th> <th style="text-align: right;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>(U) Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY 2005 President's Budget</td> <td style="text-align: right;">1.297</td> <td style="text-align: right;">1.216</td> <td style="text-align: right;">1.259</td> <td style="text-align: right;">1.489</td> </tr> <tr> <td>FY 2006 President's Budget</td> <td style="text-align: right;">1.245</td> <td style="text-align: right;">1.201</td> <td style="text-align: right;">1.138</td> <td style="text-align: right;">1.357</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-0.052</td> <td style="text-align: right; border-top: 1px solid black;">-0.015</td> <td style="text-align: right; border-top: 1px solid black;">-0.121</td> <td style="text-align: right; border-top: 1px solid black;">-0.132</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional Adjustments</td> <td></td> <td style="text-align: right;">-0.014</td> <td></td> <td></td> </tr> <tr> <td> Congressional Rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Reprogrammings</td> <td style="text-align: right;">-0.051</td> <td style="text-align: right;">-0.001</td> <td></td> <td></td> </tr> <tr> <td> Programmatic Adjustments</td> <td></td> <td></td> <td style="text-align: right;">-0.125</td> <td style="text-align: right;">-0.131</td> </tr> <tr> <td> Economic Assumptions</td> <td></td> <td></td> <td style="text-align: right;">0.005</td> <td style="text-align: right;">0.008</td> </tr> <tr> <td> Pricing Adjustments</td> <td></td> <td></td> <td style="text-align: right;">-0.001</td> <td style="text-align: right;">-0.009</td> </tr> <tr> <td> SBIR/STTR Transfers</td> <td style="text-align: right;">-0.001</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">-0.052</td> <td style="text-align: right; border-top: 1px solid black;">-0.015</td> <td style="text-align: right; border-top: 1px solid black;">-0.121</td> <td style="text-align: right; border-top: 1px solid black;">-0.132</td> </tr> </tbody> </table> <p style="margin-top: 20px;">(U) Schedule:</p> <p style="margin-left: 20px;">Schedule updated to reflect planned convergence with Joint Command and Control.</p> <p style="margin-top: 20px;">(U) Technical:</p> <p style="margin-left: 20px;">N/A.</p>						FY 2004	FY 2005	FY 2006	FY 2007	(U) Funding:					FY 2005 President's Budget	1.297	1.216	1.259	1.489	FY 2006 President's Budget	1.245	1.201	1.138	1.357	Total Adjustments	-0.052	-0.015	-0.121	-0.132	Summary of Adjustments					Congressional Adjustments		-0.014			Congressional Rescissions					Reprogrammings	-0.051	-0.001			Programmatic Adjustments			-0.125	-0.131	Economic Assumptions			0.005	0.008	Pricing Adjustments			-0.001	-0.009	SBIR/STTR Transfers	-0.001				Subtotal	-0.052	-0.015	-0.121	-0.132
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DATE:	February 2005
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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604231N - TACTICAL COMMAND SYSTEM			0486 Tactical Support Center/GCCS-M TACMOBILE						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	WX	SSC CH	19.328	0.323	VARIOUS	0.290	VARIOUS	0.450	VARIOUS	Continuing	Continuing	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			19.328	0.323		0.290		0.450		Continuing	Continuing	
Remarks:												
Development Support											0.000	
Software Development	WX	SSC CH	34.620	0.618	VARIOUS	0.598	VARIOUS	0.627	VARIOUS	Continuing	Continuing	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			34.620	0.618		0.598		0.627		Continuing	Continuing	
Remarks:												

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-5			PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM			PROJECT NUMBER AND NAME 0486 Tactical Support Center/GCCS-M TACMOBILE						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation	WX	OPTEVFOR	3.225	0.060	VARIOUS	0.040	VARIOUS	0.060	VARIOUS	Continuing	Continuing	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			3.225	0.060		0.040		0.060		Continuing	Continuing	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	WX	SSC CH	10.731	0.200	VARIOUS	0.210	VARIOUS	0.220	VARIOUS	Continuing	Continuing	
Travel											0.000	
Transportation											0.000	
Subtotal Management			10.731	0.200		0.210		0.220		Continuing	Continuing	
Remarks:												
Total Cost			67.904	1.201		1.138		1.357		Continuing	Continuing	
Remarks:												

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Exhibit R-2a, RDTE Project Justification
(Exhibit R-2a, page 18 of 105)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:											
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-5												0604231N - TACTICAL COMMAND SYSTEM												0486 Tactical Support Center/GCCS-M TACMOBILE											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4							
Acquisition Milestones						GCCS-M 4.X MS C					JC2 BLK 1 / 5.X MS B				JC2 BLK 1 / 5.X MS C				▲		JC2 BLK 2 / 6.X MS B		JC2 BLK 2 / 6.X MS C			▲		JC2 BLK 3 / 7.X MS B		JC2 BLK 3 / 7.X MS C					
Prototype Phase																																			
Development																																			
Delivery																																			
Software Deliveries	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲					
Test & Evaluation Milestones																																			
Development Test																																			
Operational Test			GCCS-M Ver 4.X OT							GCCS-M 4.1 (JC2 Migration Build) FOT&E								JC2 BLK 1 / 5.X OT							JC2 BLK 2 / 6.X OT										
Production Milestones																																			
Deliveries																																			

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 20 of 105)

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Classification:

Exhibit R-5, Termination Liability Funding for Major Defense Acquisition Programs, RDT&E Funding (\$000)						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM				PROJECT NUMBER AND NAME 0486 Tactical Support Center/GCCS-M TACMOBILE		
Program Title	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY2010	FY2011
GCCS-M TACMOBILE	-	-	-	-	-	-	-	-
<p>GCCS-M software is developed under an engineering services based contract. Maximum Government liability is limited to the total obligated value of annually awarded task orders.</p>								
<p>R-1 SHOPPING LIST - Item No. 91</p>								

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EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM				PROJECT NUMBER AND NAME 0521 Shipboard Tactical Intel/GCCS-M INTELLIGENCE APPLICATIONS					
COST (\$ in Millions)			FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
Project Cost			\$2.565	\$2.937	\$2.990	\$3.622	\$3.698	\$3.773	\$3.852	\$3.924	
RDT&E Articles Qty											
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>GCCS-M Intelligence Applications are an integrated set of Defense Information Infrastructure Common Operating Environment (DII COE) compliant segments designed to support tactical intelligence processing and reside on the Intelligence Shared Data Server (ISDS). The ISDS is the central database server for GCCS-M Afloat, the Command and Control Warfare Commander (C2WC) and tactical mission planning systems. Development of GCCS-M Intelligence applications for this data distribution includes dynamic updates of Naval Intelligence Database (NID) and military integration with digital map and imagery systems. The current GCCS-M Intel Apps effort includes providing intelligence data distribution to multiple shipboard warfighters via an analog video distribution system. Furthermore, the GCCS-M Intel Apps effort will enable the GCCS-M Afloat architecture to meet downgrading and releasability requirements. GCCS-M imagery applications provide for archiving, viewing and mensuration of still and video images. This effort is also continuing the transition to Commercial Off The Shelf (COTS) hardware and software as part of the current GCCS-M initiative to capitalize on the latest Web/PC industry/commercial technology. The GCCS-M Intel Apps effort is part of the Tactical Intelligence and Related Activities (TIARA) program, managed by the Secretary of Defense through the Assistant Secretary of Defense for C4I. In FY05, GCCS-M will begin migration to the Joint Command and Control (JC2) architectural framework in coordination with the Joint Command and Control (JC2) Program. Efforts in FY06-07 will support the continued migration of capabilities as the JC2 architecture is further refined.</p>											

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA5	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 0521 Shipboard Tactical Intel/GCCS-M INTELLIGENCE APPLICATIONS																	
(U) B. Accomplishments/Planned Program																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.765	0.850	0.849	1.025															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; margin-top: 10px;">FY04 - C2 FIRES Integration: Developed and improved capability of Intel and Imagery targeting systems. Integrated Joint Targeting Toolbox (JTT) products into GCCS-M. Integrated SCI SIGINT support to GENSER Command and Control capabilities in support of time critical targeting.</div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">FY05 - C2/Intelligence, Surveillance and Reconnaissance (ISR) Integration: Provide a standard set of integrated, linked, tools and services that access existing National, Theater, Service, and Coalition imagery and intelligence resources.</div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">FY06-07 - C2/ISR Integration - Provides for the continued migration of standardized, linked intelligence and imagery software tools and services to the Joint Command and Control architectural framework.</div>																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.175	0.000	0.000	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; margin-top: 10px;">FY04 - Spectral and Environmental Analysis: Developed and enhanced evolving Intel data sources for C2WC, nodal analysis, and other GCCS-M applications.</div>																			
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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA5	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 0521 Shipboard Tactical Intel/GCCS-M INTELLIGENCE APPLICATIONS		

(U) B. Accomplishments/Planned Program

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.591	0.631	0.661	0.800
RDT&E Articles Quantity				

FY04 - Imagery / Video Processing: Developed software to implement fleet requirements for integrating order of battle maintenance, imagery analysis, and intelligence support to the Common Operational Picture (COP) into commercial COTS environments to facilitate easy integration with IT-21 platforms and products. Developed interfaces to other imagery archives.

FY05 - Imagery Exploitation. Provide the capability to access and perform manual and automated correlation of national, organically collected, and other imagery and full motion imagery with multiple, dissimilar sources.

FY06-07 - Imagery Exploitation. Provide the capability for Commanders, their battle staffs, and supporting intelligence analysts to exploit ISR from current/next generation UAV platforms and national sensors within the Joint Command and Control architectural framework.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.034	1.456	1.480	1.797
RDT&E Articles Quantity				

FY04 - Threat OOB and C&P: Provided increased functionality in the Intelligence and Imagery applications to support capabilities in the DII COE, including real-time updates to mapping, communication, and track management tools. Integrated Intel data into the SCI enclave.

FY05 - Intelligence Data & Display. Provide the capability to develop, manage and disseminate the Order of Battle and weapons systems characteristics and performance parameters including integration of tactical and near real-time revisions to the Order of Battle.

FY06-07 - Provide the capability to perform manual and automated correlation of the Order of Battle, weapons systems characteristics and performance parameters with multiple, dissimilar Intelligence sources.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 0521 Shipboard Tactical Intel/GCCS-M INTELLIGENCE APPLICATIONS		

(U) C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
(U) Funding:				
FY 2005 President's Budget	2.567	2.967	3.295	3.978
FY 2006 President's Budget	2.565	2.937	2.990	3.622
Total Adjustments	-0.002	-0.030	-0.305	-0.356
Summary of Adjustments				
Congressional Adjustments				
Congressional Rescissions		-0.026		
Reprogrammings	-0.002	-0.004	-0.328	-0.397
Programmatic Adjustments				
Economic Assumptions			0.027	0.042
Pricing Adjustments			-0.004	-0.001
SBIR/STTR Transfers				
Subtotal	-0.002	-0.030	-0.305	-0.356

(U) Schedule:

Schedule updated to reflect planned convergence with Joint Command and Control.

(U) Technical:

N/A.

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005																				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM		PROJECT NUMBER AND NAME 0521 Shipboard Tactical Intel/GCCS-M INTELLIGENCE APPLICATIONS																						
<p>(U) D. OTHER PROGRAM FUNDING SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;"><u>Line Item No. & Name</u></th> <th style="text-align: right; border-bottom: 1px solid black;"><u>FY 2004</u></th> <th style="text-align: right; border-bottom: 1px solid black;"><u>FY 2005</u></th> <th style="text-align: right; border-bottom: 1px solid black;"><u>FY 2006</u></th> <th style="text-align: right; border-bottom: 1px solid black;"><u>FY 2007</u></th> <th style="text-align: right; border-bottom: 1px solid black;"><u>FY 2008</u></th> <th style="text-align: right; border-bottom: 1px solid black;"><u>FY 2009</u></th> <th style="text-align: right; border-bottom: 1px solid black;"><u>FY 2010</u></th> <th style="text-align: right; border-bottom: 1px solid black;"><u>FY 2011</u></th> </tr> </thead> <tbody> <tr> <td style="padding-top: 10px;">GCCS-M (OPN - BLI 2608)</td> <td style="text-align: right; padding-top: 10px;">25.640</td> <td style="text-align: right; padding-top: 10px;">35.556</td> <td style="text-align: right; padding-top: 10px;">70.037</td> <td style="text-align: right; padding-top: 10px;">56.191</td> <td style="text-align: right; padding-top: 10px;">76.276</td> <td style="text-align: right; padding-top: 10px;">63.016</td> <td style="text-align: right; padding-top: 10px;">88.999</td> <td style="text-align: right; padding-top: 10px;">94.966</td> </tr> </tbody> </table> <p style="margin-top: 20px;">(U) E. ACQUISITION STRATEGY:</p> <p style="margin-left: 20px;">N/A</p> <p style="margin-top: 20px;">(U) F. Major Performers:</p> <p style="margin-left: 20px;">Northrop Grumman Management Systems (NGMS) is the prime contractor that provides software development and integration for GCCS-M. SPAWAR System Center San Diego provides support as the Government testing facility.</p> <p style="margin-top: 20px;">(U) G. METRICS:</p> <p style="margin-left: 20px;">Earned Value Management is used for metrics reporting and risk management.</p>									<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	GCCS-M (OPN - BLI 2608)	25.640	35.556	70.037	56.191	76.276	63.016	88.999	94.966
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>																		
GCCS-M (OPN - BLI 2608)	25.640	35.556	70.037	56.191	76.276	63.016	88.999	94.966																		

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604231N - TACTICAL COMMAND SYSTEM			0521 Shipboard Tactical Intel/GCCS-M INTELLIGENCE APPLICATIONS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	VARIOUS	VARIOUS	19.011	0.381	VARIOUS	0.380	VARIOUS	0.500	VARIOUS	Continuing	Continuing	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			19.011	0.381		0.380		0.500		Continuing	Continuing	
Remarks:												
Development Support											0.000	
Software Development	VARIOUS	VARIOUS	26.733	2.521	VARIOUS	2.575	VARIOUS	3.082	VARIOUS	Continuing	Continuing	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			26.733	2.521		2.575		3.082		Continuing	Continuing	
Remarks:												

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 27 of 105)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-5			PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM			PROJECT NUMBER AND NAME 0521 Shipboard Tactical Intel/GCCS-M INTELLIGENCE APPLICATIONS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation	WX	OPTEVFOR	2.056	0.000		0.000		0.000		Continuing	Continuing	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			2.056	0.000		0.000		0.000		Continuing	Continuing	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	VARIOUS	VARIOUS	2.149	0.035	VARIOUS	0.035	VARIOUS	0.040	VARIOUS	Continuing	Continuing	
Travel											0.000	
Transportation											0.000	
											0.000	
Subtotal Management			2.149	0.035		0.035		0.040		Continuing	Continuing	
Remarks:												
Total Cost			49.949	2.937		2.990		3.622		Continuing	Continuing	
Remarks:												

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Exhibit R-2a, RDTE Project Justification
(Exhibit R-2a, page 28 of 105)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																				DATE:													
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME													
RDT&E, N / BA-5										0604231N - TACTICAL COMMAND SYSTEM										0521 Shipboard Tactical Intel/GCCS-M INTELLIGENCE APPLICATIONS													
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4					
Acquisition Milestones						GCCS-M 4.X MS C ▲					JC2 BLK 1 / 5.X MS B ▲				JC2 BLK 1 / 5.X MS C ▲				▲ JC2 BLK 2 / 6.X MS B ▲ JC2 BLK 1 / 5.X FRP				JC2 BLK 2 / 6.X MS C ▲				▲ JC2 BLK 3 / 7.X MS B ▲ JC2 BLK 2 / 6.X FRP				▲ JC2 BLK 3 / 7.X MS C		
Prototype Phase																																	
Development																																	
Delivery																																	
Software Deliveries	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
Test & Evaluation Milestones																																	
Development Test																																	
Operational Test			GCCS-M Ver 4.X OT ▲							GCCS-M 4.1 (JC2 Migration Build) FOT&E ▲								JC2 BLK 1 / 5.X OT ▲								JC2 BLK 2 / 6.X OT ▲							
Production Milestones																																	
Deliveries																																	

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CLASSIFICATION:

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 30 of 105)

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Classification:

Exhibit R-5, Termination Liability Funding for Major Defense Acquisition Programs, RDT&E Funding (\$000)						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM				PROJECT NUMBER AND NAME 0521 Shipboard Tactical Intel/GCCS-M INTELLIGENCE APPLICATIONS		
Program Title	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY2010	FY2011
GCCS-M INTEL APPLICATIONS	-	-	-	-	-	-	-	-
<p>GCCS-M software is developed under an engineering services based contract. Maximum Government liability is limited to the total obligated value of annually awarded task orders.</p>								

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UNCLASSIFIED**Exhibit R-2a, RDTE Project Justification**
(Exhibit R-2a, page 31 of 105)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM				PROJECT NUMBER AND NAME 0709 GCCS-M MARITIME APPLICATIONS					
COST (\$ in Millions)			FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
Project Cost			\$6.974	\$5.984	\$7.167	\$7.766	\$7.940	\$8.096	\$8.274	\$8.438	
RDT&E Articles Qty											
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The GCCS-M system is the component of GCCS used in the afloat, ashore and tactical/mobile maritime environments. GCCS-M meets the requirements of the tactical commander for a near real-time, fused common tactical picture with integrated intelligence services and databases. GCCS-M supports the Command, Control, Communication, Computers and Intelligence (C4I) mission requirements of the Chief of Naval Operations (CNO), Fleet Commanders in Chief (CINC), Numbered Fleet Commanders (NFC), Officer in Tactical Command/Composite Warfare Commander (OTC/CWC), Type Commanders (TYCOM), Commander Submarine Operations Authority (COMSUBOPAUTH), Commander Task Force (CTF), Commander Amphibious Task Force (CATF), Commander Landing Force (CLF), Ship's Commanding Officer/Tactical Action Officer (CO/TAO), and Joint Task Force (JTF) Commanders, as well as other functional commanders such as the Command and Control Warfare Commander (C2WC). It also integrates both joint and service-unique Command and Control projects in order to support joint task force and Navy afloat requirements. Efforts include design, integration, and test of Tactical Decision Aids (TDAs), Navy Status of Forces (NSOF), and integration of GCCS-M baselines with weapons systems and Combat Direction Systems. These efforts will provide the battle group/force commanders with the information needed to enhance their warfighting capabilities. GCCS-M is also continuing a transition to Commercial Off The Shelf (COTS) hardware and software as part of the current GCCS-M initiative to capitalize on the latest Web/PC industry/commercial technology. GCCS-M is a key system currently being used to support real world operations afloat, ashore, and with tactical/mobile commanders. In FY05, GCCS-M will begin migration to Joint Command and Control (JC2) development in coordination with the Joint Command and Control (JC2) Program. Efforts in FY06-07 will support the continued migration of capabilities as the JC2 architecture is further refined.</p>											

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA5	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 0709 GCCS-M MARITIME APPLICATIONS		

(U) B. Accomplishments/Planned Program

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	3.492	2.993	3.394	3.695
RDT&E Articles Quantity				

FY04 - Readiness/Scheduling/JPN/TADILS/BROADCASTS: Developed and incorporated web-based solutions to satisfy emerging readiness data viewing and archiving requirements identified and prioritized by Fleet users. Linked readiness data with track, intelligence, imagery, and other data as required. Integrated GCCS (Joint) segments and other GCCS Family of System segments, as appropriate, with GCCS-M to ensure interoperability. Continued to incorporate WSM requirements as identified by the CRWG process. Developed, enhanced, and integrated capabilities to distribute and associate non-track data with track data using mechanisms provided by the Common Operating Environment (COE) and Maritime extensions.

FY05 - Force Readiness/Mission Preparation/Maritime Execution Management/Undersea Warfare (UW): Facilitate access to and display of current ship readiness data including Aviation Maintenance Reports, CASREP and SORTSREP. Address the legislated requirement to access historical unit movement and status data. Provide the capability to report maritime readiness to the appropriate Joint Commander per the Joint Commander's instruction. Provide the capability to manage Maritime assets including deployment scheduling, pre-positioning and repositioning of units and stores, and allocation and reallocation of units to mission. Provide the capability to plan and manage the employment of undersea assets including water-space assignment, de-confliction and simultaneous monitoring of multiple undersea assets. Provide a bi-directional interface between the UW picture and the Common Operational Picture (COP) to facilitate Blue and Red force UW situational awareness.

FY06-07 - Force Readiness/Maritime Mission Planning and Execution. Provide the capability to plan and manage, within a Joint C2 architectural framework, the prepositioning and repositioning of units and stores and the allocation and reallocation of units for next-generation Force Structure planning and execution management per OSD and CNO mandates. This capability includes the means for the assignment, deconfliction and monitoring of multiple undersea assets.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.688	0.526	0.664	0.717
RDT&E Articles Quantity				

FY04 - Spectral and Environmental Analysis: Enhanced existing spectral and environmental analysis functionality while developing and incorporating new functionality and capability in response to Fleet requirements. Developed and enhanced automatic interface capabilities with METOC functionality as it evolves. Developed and integrated Tactical Decision Aids (TDAs) to support Electronic and Command and Control Warfare at the GENSER and SCI level.

FY05 - Electronic Warfare (EW): Provide EW analytical tools that can access, display and analyze inputs from relevant shipboard sensors. Manage and exploit the electromagnetic spectrum, including the development of electromagnetic exploitation plans using shipboard systems involved in operations against electromagnetic targets.

FY06-07 - Provide the capability to develop, manage, and execute an Emission Control Plan within a Joint C2 framework in order to prevent exploitation of next-generation emitters by emergent/future hostile collection capabilities.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA5	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 0709 GCCS-M MARITIME APPLICATIONS		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.688	1.490	2.015	2.174
RDT&E Articles Quantity				
<p>FY04 - Aircraft Mission Planning / TACMOBILE: Provided capabilities to support Maritime Patrol Aircraft (MPA) operations; enhanced and improved interfaces between Maritime Patrol Aircraft systems and mission support applications. Continued web enabling of mission support applications and migration of functionality to maintain COE currency.</p> <p>FY05 - C2/Maritime Patrol Aircraft Ground Station Integration: Facilitate shared situational awareness by integrating information from maritime patrol aircraft sensors, emitters and real time event reporting networks into the COP. Provide a bi-directional interface between the Maritime Patrol Aircraft and the COP, as well as the capability to prepare aircrew briefings, show aircraft status and provide mission reconstruction.</p> <p>FY06-07 - Migrate MPA unique shared situational awareness capabilities and systems interfaces into the Joint C2 architectural framework, including those brought by the next generation Multi-Mission Maritime Aircraft (MMA) and UAVs. This capability will support the real-time prosecution of hostile targets identified and localized by MPA/MMA/UAV assets.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.106	0.442	1.094	1.180
RDT&E Articles Quantity				
<p>FY04 - Testing: Conducted end-to-end system testing of components of the Naval C4I architecture in support of developmental, operational, and interoperability test evolutions. Supported proof of concept testing of emerging C4I technologies in operational exercise environments.</p> <p>FY05-07 - Provides for the conduct of holistic, end-to-end system testing of Maritime C4I capabilities within the emerging Joint C2 architectural framework. This includes developmental, operational, and interoperability test events as well as proof-of-concept testing of emergent capabilities and technologies.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.533	0.000	0.000
RDT&E Articles Quantity				
<p>FY05 - Architecture: Mine Counter Measures (MCM) / Naval Coastal Warfare (NCW) Command and Control: Facilitate MCM situational awareness through integration with shipboard mine warfare counter measure systems. Provide a bi-directional interface between the MCM picture and the COP as well as support to the planning, evaluation, and asset management required for MCM operations. Facilitate scaled, shared situational awareness by integrating information from visual observation and other sources into the COP. Provide a bi-directional interface between the visual observation and other sources and the COP.</p>				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																							
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<p>(U) C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;"></th> <th style="text-align: right; width: 10%;">FY 2004</th> <th style="text-align: right; width: 10%;">FY 2005</th> <th style="text-align: right; width: 10%;">FY 2006</th> <th style="text-align: right; width: 10%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>(U) Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY 2005 President's Budget</td> <td style="text-align: right;">7.364</td> <td style="text-align: right;">6.046</td> <td style="text-align: right;">7.907</td> <td style="text-align: right;">8.530</td> </tr> <tr> <td>FY 2006 President's Budget</td> <td style="text-align: right;">6.974</td> <td style="text-align: right;">5.984</td> <td style="text-align: right;">7.167</td> <td style="text-align: right;">7.766</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-0.390</td> <td style="text-align: right; border-top: 1px solid black;">-0.062</td> <td style="text-align: right; border-top: 1px solid black;">-0.740</td> <td style="text-align: right; border-top: 1px solid black;">-0.764</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td style="padding-left: 20px;">Congressional Adjustments</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Congressional Rescissions</td> <td></td> <td style="text-align: right;">-0.054</td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Reprogrammings</td> <td style="text-align: right;">-0.312</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Programmatic Adjustments</td> <td></td> <td style="text-align: right;">-0.008</td> <td style="text-align: right;">-0.789</td> <td style="text-align: right;">-0.851</td> </tr> <tr> <td style="padding-left: 20px;">Economic Assumptions</td> <td></td> <td></td> <td style="text-align: right;">0.060</td> <td style="text-align: right;">0.084</td> </tr> <tr> <td style="padding-left: 20px;">Pricing Adjustments</td> <td></td> <td></td> <td style="text-align: right;">-0.011</td> <td style="text-align: right;">0.003</td> </tr> <tr> <td style="padding-left: 20px;">SBIR/STTR Transfers</td> <td style="text-align: right;">-0.078</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">-0.390</td> <td style="text-align: right; border-top: 1px solid black;">-0.062</td> <td style="text-align: right; border-top: 1px solid black;">-0.740</td> <td style="text-align: right; border-top: 1px solid black;">-0.764</td> </tr> </tbody> </table>						FY 2004	FY 2005	FY 2006	FY 2007	(U) Funding:					FY 2005 President's Budget	7.364	6.046	7.907	8.530	FY 2006 President's Budget	6.974	5.984	7.167	7.766	Total Adjustments	-0.390	-0.062	-0.740	-0.764	Summary of Adjustments					Congressional Adjustments					Congressional Rescissions		-0.054			Reprogrammings	-0.312				Programmatic Adjustments		-0.008	-0.789	-0.851	Economic Assumptions			0.060	0.084	Pricing Adjustments			-0.011	0.003	SBIR/STTR Transfers	-0.078				Subtotal	-0.390	-0.062	-0.740	-0.764
	FY 2004	FY 2005	FY 2006	FY 2007																																																																						
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<p>(U) Schedule:</p> <p>Schedule updated to reflect planned convergence with Joint Command and Control.</p>																																																																										
<p>(U) Technical:</p> <p>N/A.</p>																																																																										

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005																				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM		PROJECT NUMBER AND NAME 0709 GCCS-M MARITIME APPLICATIONS																						
<p>(U) D. OTHER PROGRAM FUNDING SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Line Item No. & Name</th> <th style="text-align: right; border-bottom: 1px solid black;">FY 2004</th> <th style="text-align: right; border-bottom: 1px solid black;">FY 2005</th> <th style="text-align: right; border-bottom: 1px solid black;">FY 2006</th> <th style="text-align: right; border-bottom: 1px solid black;">FY 2007</th> <th style="text-align: right; border-bottom: 1px solid black;">FY 2008</th> <th style="text-align: right; border-bottom: 1px solid black;">FY 2009</th> <th style="text-align: right; border-bottom: 1px solid black;">FY 2010</th> <th style="text-align: right; border-bottom: 1px solid black;">FY 2011</th> </tr> </thead> <tbody> <tr> <td style="padding-top: 20px;">GCCS-M (OPN - BLI 2608)</td> <td style="text-align: right; padding-top: 20px;">25.640</td> <td style="text-align: right; padding-top: 20px;">35.556</td> <td style="text-align: right; padding-top: 20px;">70.037</td> <td style="text-align: right; padding-top: 20px;">56.191</td> <td style="text-align: right; padding-top: 20px;">76.276</td> <td style="text-align: right; padding-top: 20px;">63.016</td> <td style="text-align: right; padding-top: 20px;">89.999</td> <td style="text-align: right; padding-top: 20px;">94.966</td> </tr> </tbody> </table> <p style="margin-top: 40px;">(U) E. ACQUISITION STRATEGY:</p> <p style="margin-left: 40px;">N/A</p> <p style="margin-top: 40px;">(U) F. Major Performers:</p> <p style="margin-left: 40px;">Northrop Grumman Management Systems (NGMS) is the prime contractor that provides software development and integration for GCCS-M. SPAWAR System Center San Diego provides support as the Government testing facility. Maxim Systems provides systems engineering support for GCCS-M.</p> <p style="margin-top: 40px;">(U) G. METRICS:</p> <p style="margin-left: 40px;">Earned Value Management is used for metrics reporting and risk management.</p>									Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	GCCS-M (OPN - BLI 2608)	25.640	35.556	70.037	56.191	76.276	63.016	89.999	94.966
Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011																		
GCCS-M (OPN - BLI 2608)	25.640	35.556	70.037	56.191	76.276	63.016	89.999	94.966																		

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604231N - TACTICAL COMMAND SYSTEM			0709 GCCS-M MARITIME APPLICATIONS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	VARIOUS	VARIOUS	12.762	0.500	VARIOUS	0.750	VARIOUS	1.057	VARIOUS	Continuing	Continuing	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			12.762	0.500		0.750		1.057		Continuing	Continuing	
Remarks:												
Development Support											0.000	
Software Development	VARIOUS	VARIOUS	51.274	4.982	VARIOUS	5.826	VARIOUS	6.059	VARIOUS	Continuing	Continuing	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			51.274	4.982		5.826		6.059		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 91

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 37 of 105)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-5			PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM			PROJECT NUMBER AND NAME 0709 GCCS-M MARITIME APPLICATIONS						
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Developmental Test & Evaluation											0.000	
Operational Test & Evaluation	WX	OPTEVFOR	1.090	0.000		0.045		0.060		Continuing	Continuing	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			1.090	0.000		0.045		0.060		Continuing	Continuing	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	VARIOUS	VARIOUS	9.530	0.502	VARIOUS	0.546	VARIOUS	0.590	VARIOUS	Continuing	Continuing	
Travel											0.000	
Transportation											0.000	
Subtotal Management			9.530	0.502		0.546		0.590		Continuing	Continuing	
Remarks:												
Total Cost			74.656	5.984		7.167		7.766		Continuing	Continuing	
Remarks:												

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Exhibit R-2a, RDTE Project Justification
(Exhibit R-2a, page 38 of 105)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:											
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-5												0604231N - TACTICAL COMMAND SYSTEM												0709 GCCS-M MARITIME APPLICATIONS											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 40 of 105)

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Classification:

Exhibit R-5, Termination Liability Funding for Major Defense Acquisition Programs, RDT&E Funding (\$000)						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM				PROJECT NUMBER AND NAME 0709 GCCS-M MARITIME APPLICATIONS		
Program Title	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY2010	FY2011
GCCS-M MARITIME APPLICATIONS	-	-	-	-	-	-	-	-
<p>GCCS-M software is developed under an engineering services based contract. Maximum Government liability is limited to the total obligated value of annually awarded task orders.</p>								

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 41 of 105)

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EXHIBIT R-2a, RDT&E Project Justification							DATE: <div>February 2005</div>				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM			PROJECT NUMBER AND NAME 2009 OIS Evolutionary Development/TRUSTED INFORMATION SYSTEMS						
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011		
Project Cost		\$2.120	\$1.463	\$2.148	\$1.840	\$1.662	\$1.480	\$1.509	\$1.536		
RDT&E Articles Qty											

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) Trusted Information Systems (TIS) is a combination of the Ocean Surveillance Information System (OSIS) Evolutionary Development (OED) system and the Radiant Mercury (RM) system incorporating multi-level security (MLS) web technologies and Multiple Levels of Security (MSL) technologies in order to successfully provide accredited Cross Domain Solutions (CDS). TIS provides the core on-line, automated, near-real time, multi-level secure, information analysis, dissemination, and receipt capabilities that enable Combatant Commanders and Joint Task Force Commanders afloat and ashore to disseminate and receive critical operational and intelligence information with own forces and Coalition/Allied forces via tactical and record communications circuits. OED is a designated migration system providing for the analysis of intelligence information from multiple sources to produce a comprehensive report of foreign forces and potential hostile activity. The system is required to be able to generate multiple, automated near-real-time event-by-event (NRT EBE) data streams at various classification/releasability levels, tailorable to unique customer requirements and capable of being transmitted over multiple communications paths (including DSNET) simultaneously. In addition, it is required to provide near-real-time (NRT) all-source fusion, correlation and analysis tools (including robust graphics presentation and geospatial analysis capabilities), directly feeding automated reporting capabilities. OED provides positional data and operational intelligence to commanders at all levels. The data derived from this process is disseminated as an Operation Intelligence (OPINTEL) product to the operating forces for tactical threat warnings, decision making support, and support of Over-the-Horizon-Targeting. Radiant Mercury is a tool for the automated sanitizing, downgrading, and transliteration of formatted message traffic. Radiant Mercury helps ensure critical Indications and Warning intelligence is provided quickly to operational decision-makers. This capability to move all-source intelligence-derived track information into the realm of the operational community significantly improves the situational awareness of tactical operators and planners. Additionally, it assists in providing critical operational information to intelligence and crypto logic analysts.

(U) TIS is built on an evolutionary development strategy, which provides a mechanism for adding future capabilities including the incorporation of proven Fleet-initiated prototypes. TIS is the CDS foundation for transformational capabilities and functionalities required for the success of FORCEnet, Net-Centric Enterprise Services (NCES), Joint Command and Control (JC2), Multi-National Information Sharing (MNIS), and Global Information Grid (GIG). These transformational capabilities and functionalities include, but are not limited to, web services (to include XML and SOAP support), CDS to single level and/or untrusted clients, conversion of legacy serial communications to Internet Protocol (IP) connectivity, vastly improved throughput to support larger and larger files, and operating system (OS) migration in support of FORCEnet, NCES, JC2, MNIS, and GIG architectures.

(U) OED and RM are linchpins of network-centric warfare, supporting joint operations and coalition forces in the Global War on Terrorism (GWOT) and in Homeland Security operations. The ability to pass sensitive, yet critical, data across security domains and to our Coalition partners in a timely fashion can only be met by accredited CDS systems such as OED and RM. One example is Blue Force Tracking where CDS provided by TIS allows for near real time coordination of Blue Force locations across Areas of Operation supporting the prevention of fratricide, improving situational awareness, and increasing command and control effectiveness across Joint and Coalition forces.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA5	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND	PROJECT NUMBER AND NAME 2009 OIS Evolutionary Development/TRUSTED INFORMATION SYSTEMS																	
(U) B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 20%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">0.758</td> <td style="text-align: center;">0.777</td> <td style="text-align: center;">1.048</td> <td style="text-align: center;">0.910</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p>FY04/05: Develop, integrate, and test Web service front-end to MLS Message Archive search, extend MLS search to PDF files, process Track Management messages from external C4I systems, provide cross domain C2PC gateway services to DODIIS Trusted Workstation (DTW) analyst tools to identify high-interest track candidates for downgrade/processing for coalition redistribution, connectivity to external MIBD, higher throughput for messages and files (directly supporting Blue Force Tracker requirements for the GWOT), remote administration, high availability, COP Synchronization Tool (CST) guarding and sanitization, and greater file sizes to address very large imagery files.</p> <p>FY06: Develop, integrate, and test Security label adjudication web services; Web service front end to MLS track management; Web service front end to MLS Message & PDF Profiling/Queueing; MLS web services to DTW; greater throughput for Blue Force Tracker data and messages and imagery; and porting of systems / modification of applications to support new trusted operating systems (OSs) in support of Fn, NCES, JC2, MNIS, and GIG CDS requirements.</p> <p>FY07: Develop, integrate, and test MLS collaboration support; data posting from single level untrusted clients; enhanced security web services to meet new security requirements; collapse JCDX web service gateways to single MLS server; provide CDS foundation to Fn, NCES, JC2, MNIS, and GIG; and regionalization of RM services.</p>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.758	0.777	1.048	0.910	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.758	0.777	1.048	0.910															
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.092	0.091	1.100	0.930															
RDT&E Articles Quantity																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.303	0.288	0.000	0.000															
RDT&E Articles Quantity																			

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA5	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 2009 OIS Evolutionary Development/TRUSTED INFORMATION SYSTEMS		

(U) B. Accomplishments/Planned Program

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.202	0.199	0.000	0.000
RDTE Articles Quantity				

Systems Engineering in support of OED / RM migration to NCES/JC2/FORCENET architecture and RM migration to embedded VME card-like applications.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.111	0.108	0.000	0.000
RDTE Articles Quantity				

Develop system interface capabilities as required for current releases for record communications systems with in an accreditable MLS baseline.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.654	0.000	0.000	0.000
RDTE Articles Quantity				

Developed multi-level secure encryption path within shore-to-ship network for direct connectivity to allied networks. Enabled Counter Terrorism (CT) data in afloat message handling systems and COP database. Enhanced CT data mining and alerting tools at JICs.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																							
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 2009 OIS Evolutionary Development/TRUSTED INFORMATION SYSTEMS																																																																								
<p>(U) C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"></th> <th style="text-align: right;">FY 2004</th> <th style="text-align: right;">FY 2005</th> <th style="text-align: right;">FY 2006</th> <th style="text-align: right;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>(U) Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY 2005 President's Budget</td> <td style="text-align: right;">2.122</td> <td style="text-align: right;">1.482</td> <td style="text-align: right;">2.137</td> <td style="text-align: right;">1.828</td> </tr> <tr> <td>FY 2006 President's Budget</td> <td style="text-align: right;">2.120</td> <td style="text-align: right;">1.463</td> <td style="text-align: right;">2.148</td> <td style="text-align: right;">1.840</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-0.002</td> <td style="text-align: right; border-top: 1px solid black;">-0.019</td> <td style="text-align: right; border-top: 1px solid black;">0.011</td> <td style="text-align: right; border-top: 1px solid black;">0.012</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional Adjustments</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional Rescissions</td> <td></td> <td style="text-align: right;">-0.017</td> <td></td> <td></td> </tr> <tr> <td> Reprogrammings</td> <td style="text-align: right;">-0.002</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Programmatic Adjustments</td> <td></td> <td style="text-align: right;">-0.002</td> <td style="text-align: right;">-0.006</td> <td style="text-align: right;">-0.009</td> </tr> <tr> <td> Economic Assumptions</td> <td></td> <td></td> <td style="text-align: right;">0.021</td> <td style="text-align: right;">0.024</td> </tr> <tr> <td> Pricing Adjustments</td> <td></td> <td></td> <td style="text-align: right;">-0.004</td> <td style="text-align: right;">-0.003</td> </tr> <tr> <td> SBIR/STTR Transfers</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Subtotal</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.002</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.019</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">0.011</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">0.012</td> </tr> </tbody> </table> <p style="margin-top: 20px;">(U) Schedule: N/A.</p> <p style="margin-top: 20px;">(U) Technical: N/A.</p>						FY 2004	FY 2005	FY 2006	FY 2007	(U) Funding:					FY 2005 President's Budget	2.122	1.482	2.137	1.828	FY 2006 President's Budget	2.120	1.463	2.148	1.840	Total Adjustments	-0.002	-0.019	0.011	0.012	Summary of Adjustments					Congressional Adjustments					Congressional Rescissions		-0.017			Reprogrammings	-0.002				Programmatic Adjustments		-0.002	-0.006	-0.009	Economic Assumptions			0.021	0.024	Pricing Adjustments			-0.004	-0.003	SBIR/STTR Transfers					Subtotal	-0.002	-0.019	0.011	0.012
	FY 2004	FY 2005	FY 2006	FY 2007																																																																						
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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 46 of 105)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE&E, N / BA-5			0604231N - TACTICAL COMMAND SYSTEM			2009 OIS Evolutionary Development/TRUSTED INFORMATION SYSTEMS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	VARIOUS	VARIOUS	9.540	0.133	VARIOUS	0.216	VARIOUS	0.195	VARIOUS	Continuing	Continuing	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			9.540	0.133		0.216		0.195		Continuing	Continuing	
Remarks:												
Development Support											0.000	
Software Development	VARIOUS	VARIOUS	49.647	1.248	VARIOUS	1.868	VARIOUS	1.591	VARIOUS	Continuing	Continuing	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			49.647	1.248		1.868		1.591		Continuing	Continuing	
Remarks:												

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Exhibit R-2a, RDTE Project Justification
(Exhibit R-2a, page 47 of 105)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-5			PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM			PROJECT NUMBER AND NAME 2009 OIS Evolutionary Development/TRUSTED INFORMATION SYSTEMS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation	WX	OPTEVFOR	0.630	0.050		0.000		0.000		Continuing	Continuing	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.630	0.050		0.000		0.000		Continuing	Continuing	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	VARIOUS	VARIOUS	2.185	0.032	VARIOUS	0.064	VARIOUS	0.054	VARIOUS	Continuing	Continuing	
Travel											0.000	
Transportation											0.000	
											0.000	
Subtotal Management			2.185	0.032		0.064		0.054		Continuing	Continuing	
Remarks:												
Total Cost			62.002	1.463		2.148		1.840		Continuing	Continuing	
Remarks:												

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Exhibit R-2a, RDTE Project Justification
(Exhibit R-2a, page 48 of 105)

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EXHIBIT R4, Schedule Profile																		DATE:																		
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME																			
RDT&E, N /					0604231N - TACTICAL COMMAND SYSTEM												2009 OIS Evolutionary Development/TRUSTED INFORMATION SYSTEMS																			
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones					MILESTONE "C" - OED VERSION 5.X												MILESTONE "C" - OED VERSION 6.X																			
Prototype Phase																																				
Development																																				
Delivery																																				
Software OED 5.X SW Delivery					DELIVERY OED VERSION 5.X												DELIVERY OED VERSION 6.X																			
Test & Evaluation Milestones																																				
Development Test					DT/OT - OED VERSION 5.X												DT/OT - OED VERSION 6.X																			
Operational Test																																				
Production Milestones																																				
Deliveries																																				

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 50 of 105)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM					PROJECT NUMBER AND NAME 2305 GCCS-M COMMON APPLICATIONS					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011		
Project Cost		\$9.936	\$8.959	\$9.779	\$6.785	\$7.051	\$7.287	\$7.555	\$7.800		
RDT&E Articles Qty											

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The GCCS-M Common Apps program contains the fundamental building blocks and common applications for all fielded Global Command and Control System (Maritime) C4I systems in the Navy, Marine Corps, and Coast Guard. It is the Navy's tactical implementation of the Global Command and Control System (GCCS) which provides the warfighter: (1) timely access to battlefield information, and (2) state-of-the-art information processing capability to support the Command and Control of maritime forces through a combination of communications, intelligence and combat system interfaces.

The Navy Common Operating Environment program is a core function of the GCCS-M Common Apps in that it serves as the system integration point for Command and Control systems in the Naval services. The program has the responsibility of working with developers throughout the Navy to incorporate the requirements of their users so that they might quickly and efficiently integrate and transform present stovepipe capabilities into an interoperable C4I architecture. As the number of legacy systems migrating to the Defense Information Infrastructure Common Operating Environment (DII COE) continues to grow, resources for rapidly folding them into the service extensions must keep pace as the complexity and size of the COE grows. As a product of evolutionary acquisition, the Navy COE will continue to evolve with the DII COE, new technology, and COMMERCIAL-OFF-THE-SHELF (COTS) products. In FY05, GCCS-M will begin migration to Joint Command and Control (JC2) development in coordination with the Joint Command and Control (JC2) Program. Efforts in FY06-07 will support the continued migration of capabilities as the JC2 architecture is further refined.

GCCS-M Common Apps includes all C4I applications required to fully support Navy joint interoperability in the littoral environment, and includes all common functions such as track database management, message processing, display implementation, correlation and system architecture migration in order to ensure a coherent and consistent implementation of C4I architectures in the Fleet.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA5	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 2305 GCCS-M COMMON APPLICATIONS		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.713	0.697	0.691	0.480
RDT&E Articles Quantity				
<p>FY04 - Aircraft Mission Planning: Developed and enhanced interfaces between GCCS-M and aircraft mission planning systems such as Theater Battle Management Core Systems (TBMCS) and Joint Mission Planning System(JMPS).</p> <p>FY05 - Aerospace Operations: Integrate organic situational awareness capabilities with National, theater, and shipboard aerospace operations management systems to plan and execute aerospace operations and promote shared situational awareness.</p> <p>FY06-07 - Aerospace Operations. Provide the capability to process and disseminate aircraft mission planning and execution data for disparate sources and platforms within the Joint C2 architectural construct. Required to execute near-real time strike, deep interdiction and power projection missions by current and next-generation manned and unmanned air assets.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.352	1.843	1.351	0.938
RDT&E Articles Quantity				
<p>FY04 - Web-Enabling/Readiness: Developed and implemented the N-tier architecture. Integrated readiness capabilities that satisfy interoperability requirements of Joint and coalition forces, including web-based integration with GCCS-Joint, Joint Operation Planning and Execution System (JOPES), and similar theater-level C4I systems.</p> <p>FY05 - User Help and Documentation: Provide an embedded documentation and individual/team user help capability that emphasizes performance of mission capabilities.</p> <p>FY06-07 - Provide the continued migration of web-enabled, task oriented documentation and help capability emphasizing execution of missions within the Joint Command and Control construct.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.584	0.435	1.775	1.230
RDT&E Articles Quantity				
<p>FY04 - Testing/Usability: Continued to conduct proof of concept testing in exercise environments of emerging technology in the C4I arena. Performed systems testing on the integrated components of the Naval C4I architecture developed as part of GCCS-M.</p> <p>FY05-07 - Provide end-to-end system testing of Maritime C4I capabilities within the emerging Joint C2 architectural framework. This includes developmental, operational, and interoperability test events as well as proof-of-concept testing of emergent capabilities and technologies.</p>				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA5	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 2305 GCCS-M COMMON APPLICATIONS																	
(U) B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">0.708</td> <td style="text-align: center;">0.729</td> <td style="text-align: center;">0.687</td> <td style="text-align: center;">0.477</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.708	0.729	0.687	0.477	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.708	0.729	0.687	0.477															
RDT&E Articles Quantity																			
<p>FY04 - Combat Systems Interface: Evolved combat system interfaces to web-enabled standards (XML) and enabled full exchange of tracks between GCCS-M, and combat systems such as Aegis, Common C&D, ACDS, SSDS, and NFCS.</p> <p>FY05 - C2/Navigation Systems Integration / C2/METOC Integration: Integrate with shipboard navigation systems to provide definitive ship location to the COP in support of shared situational awareness. Provide the capability to geo-register and render digital nautical charts/navigation quality map products. Integrate with shipboard meteorological systems to provide current and forecasted environmental data to execute maritime operations and promote shared situational awareness.</p> <p>FY06-07 - C2/Navigation Systems Integration / C2/METOC Integration: Continues the migration and integration of evolving organic shipboard systems to maritime implementations of the Joint C2 architecture.</p>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">4.087</td> <td style="text-align: center;">3.651</td> <td style="text-align: center;">3.786</td> <td style="text-align: center;">2.627</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	4.087	3.651	3.786	2.627	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	4.087	3.651	3.786	2.627															
RDT&E Articles Quantity																			
<p>FY04 - JPN/TADILS/BROADCASTS: Implemented the interoperable & scalable C4I system for managing tracks, data links, communications, and sensors that supports Joint/coalition warfare.</p> <p>FY05 - Situational Awareness (SA) / Battle Force Command and Control (BFC2): Facilitate shared situational awareness by integrating information from shipboard sensors, emitters and real time event reporting networks into the COP. Provide assured SA and BFC2 by integrating information systems spanning GENSER, SCI, and Coalition security domains. Exchange shared situational awareness information via the COP with Joint and shipboard systems (e.g. combat, weapons control, navigation, cryptologic).</p> <p>FY06-07 - Provide bi-directional shared situational awareness by integrating and exchanging information with disparate systems, sensors and real time event reporting networks (e.g. weapons/fire control, navigation, cryptologic, tactical data links and broadcasts) within the Joint C2 architectural construct. This is required to prevent fratricide and mutual interference of current (e.g. Tomahawk, Aegis, Standard Missile and Patriot) and future weapon systems/platforms (DD-21, JSF, MMA, and Predator) during multi-platform strike operations. Leverages investment in new and upgraded sensors to further develop Situational Awareness and Command and Control throughout the extended Battlespace.</p>																			

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA5	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 2305 GCCS-M COMMON APPLICATIONS		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.140	0.197	0.136	0.094
RDT&E Articles Quantity				
<p>FY04 - Force Protection/Counter-terrorism: Researched, developed and integrated tactical decision aides, analytical tools, and decision support tools to satisfy emergent operational C4I requirements for Force Protection and Counter-terrorism missions. Conducted rapid prototyping and end-to-end testing of these solutions to provide "speed of capability" to the warfighter. Ensured current and emergent functionality and capabilities and provided improved interoperability with Allied and Coalition partners.</p> <p>FY 05 - Emergent Capabilities: Provide the capability to rapidly incorporate emergent and transformational C2I capabilities that have been demonstrated through the experimentation process, and that satisfy Naval, Joint and Coalition C2I requirements.</p> <p>FY 06-07 - Emergent Capabilities: Provide the continued migration of emergent and transformational command and control capabilities to the Joint C2 architectural construct.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.352	1.407	1.353	0.939
RDT&E Articles Quantity				
<p>FY04 - C2 FIRES Integration: Integrated Command and Control systems with targeting systems at the Naval and Joint levels (e.g., Joint Fires Network). Developed and integrated Joint collaborative products into GCCS-M to enable analysts to exchange application and text data over IP communications.</p> <p>FY05 - Maritime Mission Presentation of COP: Provide the capability to perform unique Shipboard Operations Execution Management tasks (e.g. maritime mission specific overlays/templates).</p> <p>FY06-07 - Targeting/Strike: Provide the capabilities to plan and conduct targeting activities, such as tasking, assignment, and direction of weapons delivery platforms (e.g. NFCS, Tomahawk) and execute strike operations in near-real time using existing and emerging systems, sensors, and data sources (e.g. JSIPS-N, DCGS) within the Joint Command and Control framework. Required to ensure maximum lethality from weapon-target pairing while minimizing collateral damage and preventing fratricide during Joint and Coalition strike operations.</p>				

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 2305 GCCS-M COMMON APPLICATIONS		

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY 2005 President's Budget	10.810	9.110	12.809	11.689
FY 2006 President's Budget	9.936	8.959	9.779	6.785
Total Adjustments	-0.874	-0.151	-3.030	-4.904

Summary of Adjustments

Congressional Adjustments				
Congressional Rescissions		-0.105		
Reprogrammings	-0.731			
Programmatic Adjustments		-0.046	-3.122	-5.037
Economic Assumptions			0.114	0.135
Pricing Adjustments			-0.022	-0.002
SBIR/STTR Transfers	-0.143			
Subtotal	-0.874	-0.151	-3.030	-4.904

(U) Schedule:

Schedule updated to reflect planned convergence with Joint Command and Control.

(U) Technical:

N/A.

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005																				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM		PROJECT NUMBER AND NAME 2305 GCCS-M COMMON APPLICATIONS																						
<p>(U) D. OTHER PROGRAM FUNDING SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;"><u>Line Item No. & Name</u></th> <th style="text-align: right; border-bottom: 1px solid black;"><u>FY 2004</u></th> <th style="text-align: right; border-bottom: 1px solid black;"><u>FY 2005</u></th> <th style="text-align: right; border-bottom: 1px solid black;"><u>FY 2006</u></th> <th style="text-align: right; border-bottom: 1px solid black;"><u>FY 2007</u></th> <th style="text-align: right; border-bottom: 1px solid black;"><u>FY 2008</u></th> <th style="text-align: right; border-bottom: 1px solid black;"><u>FY 2009</u></th> <th style="text-align: right; border-bottom: 1px solid black;"><u>FY 2010</u></th> <th style="text-align: right; border-bottom: 1px solid black;"><u>FY 2011</u></th> </tr> </thead> <tbody> <tr> <td style="padding-top: 10px;">GCCS-M (OPN - BLI 2608)</td> <td style="text-align: right; padding-top: 10px;">25.640</td> <td style="text-align: right; padding-top: 10px;">35.556</td> <td style="text-align: right; padding-top: 10px;">70.037</td> <td style="text-align: right; padding-top: 10px;">56.191</td> <td style="text-align: right; padding-top: 10px;">76.276</td> <td style="text-align: right; padding-top: 10px;">63.016</td> <td style="text-align: right; padding-top: 10px;">88.999</td> <td style="text-align: right; padding-top: 10px;">94.966</td> </tr> </tbody> </table> <p style="margin-top: 20px;">(U) E. ACQUISITION STRATEGY:</p> <p style="margin-left: 20px;">N/A</p> <p style="margin-top: 20px;">(U) F. Major Performers:</p> <p style="margin-left: 20px;">Northrop Grumman Management Systems (NGMS) is the prime contractor that provides software development and integration for GCCS-M. SPAWAR System Center San Diego provides support as the Government testing facility.</p> <p style="margin-top: 20px;">(U) G. METRICS:</p> <p style="margin-left: 20px;">Earned Value Management is used for metrics reporting and risk management.</p>									<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	GCCS-M (OPN - BLI 2608)	25.640	35.556	70.037	56.191	76.276	63.016	88.999	94.966
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>																		
GCCS-M (OPN - BLI 2608)	25.640	35.556	70.037	56.191	76.276	63.016	88.999	94.966																		

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604231N - TACTICAL COMMAND SYSTEM			2305 GCCS-M COMMON APPLICATIONS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	VAR	VAR	8.010	0.883	VAR	1.212	VAR	1.033	VAR	Continuing	Continuing	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			8.010	0.883		1.212		1.033		Continuing	Continuing	
Remarks:												
Development Support											0.000	
Software Development	VAR	VAR	50.393	6.662	VAR	6.579	VAR	4.068	VAR	Continuing	Continuing	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			50.393	6.662		6.579		4.068		Continuing	Continuing	
Remarks:												

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM			PROJECT NUMBER AND NAME 2305 GCCS-M COMMON APPLICATIONS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	VAR	VAR	6.432	0.719	VAR	1.013	VAR	0.822	VAR	Continuing	Continuing	
Operational Test & Evaluation	VAR	VAR	1.079	0.165	VAR	0.230	VAR	0.212	VAR	Continuing	Continuing	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			7.511	0.884		1.243		1.034		Continuing	Continuing	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	VAR	VAR	3.452	0.530	VAR	0.745	VAR	0.650	VAR	Continuing	Continuing	
Travel											0.000	
Transportation											0.000	
Subtotal Management			3.452	0.530		0.745		0.650		Continuing	Continuing	
Remarks:												
Total Cost			69.366	8.959		9.779		6.785		Continuing	Continuing	
Remarks:												

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 58 of 105)

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EXHIBIT R4, Schedule Profile																								DATE:											
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-5												0604231N - TACTICAL COMMAND SYSTEM												2305 GCCS-M COMMON APPLICATIONS											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4							
Acquisition Milestones						GCCS-M 4.X MS C					JC2 BLK 1 / 5.X MS B				JC2 BLK 1 / 5.X MS C				▲		JC2 BLK 2 / 6.X MS B		JC2 BLK 2 / 6.X MS C			▲		JC2 BLK 3 / 7.X MS B		JC2 BLK 3 / 7.X MS C					
Prototype Phase																																			
Development																																			
Delivery																																			
Software Deliveries	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲					
Test & Evaluation Milestones																																			
Development Test																																			
Operational Test			GCCS-M Ver 4.X OT							▲							JC2 BLK 1 / 5.X OT									▲									
Production Milestones																																			
Deliveries																																			

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 60 of 105)

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Exhibit R-5, Termination Liability Funding for Major Defense Acquisition Programs, RDT&E Funding (\$000)						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM				PROJECT NUMBER AND NAME 2305 GCCS-M COMMON APPLICATIONS		
Program Title	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY2010	FY2011
GCCS-M COMMON APPLICATIONS	-	-	-	-	-	-	-	-
<p>GCCS-M software is developed under an engineering services based contract. Maximum Government liability is limited to the total obligated value of annually awarded task orders.</p>								

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 61 of 105)

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EXHIBIT R-2a, RDT&E Project Justification

DATE:

February 2005

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME			
RDT&E, N / BA-5	0604231N Tactical Command System				2307 Shipboard LAN/WAN/Integrated Shipboard Network System (ISNS)			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	\$1.027	\$1.661	\$3.052	\$3.240	\$3.346	\$3.421	\$3.509	\$3.589
RDT&E Articles Qty								

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Integrated Shipboard Network System (ISNS) program provides Navy ships, including submarines, with reliable, high-speed SECRET and UNCLASSIFIED Local Area Network (LAN)s. The LAN provides Basic Network Information Distribution Services (BNIDS) and access to the DISN Wide Area Network (WAN) (Secure and Nonsecure Internet Protocol Router Network -SIPRNet and NIPRNet). It provides the network infrastructure and services to enable real-time information exchange within the ship and between afloat units, Component Commanders, and Fleet Commanders. It is a key factor in the implementation of the Navy's portion of Joint Vision 2020 and the migration of existing legacy systems into the IT-21 strategy. Project funding supports the design, development and testing of the ISNS LAN for surface ships and SubLAN for submarines.

The ISNS program maximizes the use of both COTS software and hardware. Engineering and technical support is provided so that existing systems will keep pace with hardware and software that continues to be commercially supported. ISNS and SubLAN use a combination of high speed wired and wireless switches, routers, servers, workstations and operating system software technologies to provide network access to classified and unclassified applications for use by ship's force, embarked units, embarked commanders and their staffs. Under the Navy's information modernization strategy, full synchronization of shipboard networks, mission and information applications, radio/satellite communications, and shore data dissemination infrastructure are necessary to ensure end-to-end mission capability. The Integrated Shipboard Networking System program is closely synchronized on a ship by ship basis with over 460 different system configurations including the following: Global Command and Control System Maritime (GCCS-M) and Navy Tactical Command Support System (NTCSS), Navy Standard Integrated Personnel System (NSIPS), Theatre Medical Information Program – Maritime (TMIP-M), Defense Messaging System (DMS), Digital Wideband Transmission System (DWTS), Advanced Digital Network System (ADNS), Global Broadcasting System (GBS), Video Information Exchange System (VIXS), Advanced Tomahawk Weapons Control System (ATWCS) and Information Security (INFOSEC) programs. The ISNS program provides the infrastructure to support implementation/fielding of programs listed above. If the ISNS infrastructure is not in place, a large segment of the Fleet will not be able to utilize the available capabilities to improve productivity and increase efficiency. The LAN modernization rate must keep pace with hardware and software that is supported commercially in order to provide a supportable and secure ForceNET infrastructure.

The Combined Enterprise Regional Information Exchange System (CENTRIXS) program provides Navy ships with a reliable, high-speed Local Area Network (LAN) that will provide access to the coalition (Four Eyes, Global Counter Terrorism Task Force (GCTF), CENTRIXS J and K, Multinational Coalition Force Iraq (MCFI) and all other bilaterals) Wide Area Network (WAN). It provides real-time information exchange between afloat units, Component Commanders, numbered Fleet Commanders and Commanders LANT/PAC Fleet through the migration of existing legacy systems into the ISNS strategy, full synchronization of shipboard networks, mission and information applications and Radio/Satellite communications and shore data dissemination infrastructure, installations are necessary to ensure end-to-end capability. The CENTRIXS program maximizes the use of both COTS software and hardware resulting in dependence of commercial support. Engineering and technical support is provided so that existing systems will be upgraded/modified to keep pace with the commercial community.

CENTRIXS RDT&E Project funding supports the development of acquisition documentation essential to the program. The goal for the CENTRIXS program is to provide a cost-efficient operationally effective network that dramatically reduces the infrastructure requirements, while maximizing operational flexibility in a coalition environment. Multi-Level Thin Client (MLTC) initiatives include Server Virtualization Development, which provides the ability to run multiple virtual servers on a single server. Additionally, this funding provides design, developing and testing of the Unit level Multi-Level Security / Multi-Level Thin Client (MLS/MLTC) system that will reduce drop requirements while minimizing server and client footprint and migration testing with the existing Force level design from CENTRIXS to Microsoft software baseline will reduce software costs.

Submarine Local Area Network (SubLAN): The SubLAN program provides Navy submarines, with reliable, high-speed SECRET and UNCLASSIFIED Local Area Networks (LAN)s. When the SubLAN network is combined with other subsystems, it delivers an end-to-end network-centric warfare capability. SubLAN I provides network infrastructure including an Unclassified Wireless Local Area Network (UWLAN), servers, and the Common PC Operating System Environment (COMPOSE), which provides the server and operating system environment in which other applications such as Non-Tactical Data Processing System (NTDPS) application suite can run.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System	PROJECT NUMBER AND NAME 2307 Shipboard LAN/WAN/Integrated Shipboard Network System (ISNS)		

(U) B. Accomplishments/Planned Program

	FY 04	FY 05	FY 06	FY 07
ISNS	0.718	1.163	0.872	0.968
RDT&E Articles Quantity				

FY(04-FY05): Perform developmental testing and operational testing of ISNS . The testing events will support a FRP decision for ISNS. Develop COMPOSE 2.X. and 3.X to transition out of Windows NT server/client environment. Continue to investigate, develop and test next generation LAN Protocols (including Wireless LAN, Network management and administration, Secure/Nonsecure Voice, Internet Protocol Video and IPv6 and Quality of Service protocols) for potential incorporation into the Shipboard LAN architecture. Investigate, integrate and test data prioritization, advanced data storage and management, next generation server/workstation operation systems and secure operating systems, server/workstation consolidation and fixes for security vulnerabilities. Perform studies to increase availability and survivability of networks and reduce network infrastructure footprint. Perform disaster recovery plan and develop incremental spiral to mitigate major data and service disasters. Continual investigation of protocols, hardware, and software for insertion into the LAN architecture is driven by eighteen month technology change cycle and maintaining a secure network against evolving threats. Perform follow-on system developmental and operational testing.

FY06: Continue to investigate, develop and test major and minor data and service disaster improvements, and dual IPv4 and IPv6 routing architectures. Investigate and test Storage Attached Network (SAN) and Network Attached Storage (NAS) architectures in support of server consolidation. Design and test increased availability and survivability network solutions. Further investigate increasing availability and survivability of networks and reduction of network infrastructure footprint. Investigate increased security technologies that will monitor and control network and server data. Integrate wireless network technologies into shipboard networks. Perform DT and FOT&E on ISNS Increment 1 Force Level variant.

FY07: Develop COMPOSE 4.X. Investigate, develop and test server consolidation architectures using multi-Secure server Operating Systems. Continue to investigate, develop and test SAN, NAS, server consolidation, and IP telephony architectures. Develop and test security technologies that monitor and control network and server traffic. Develop and test IP telephony solutions and call management for unclassified and secret networks.

	FY 04	FY 05	FY 06	FY 07
ISNS/CENTRIXS	0.000	0.000	1.807	1.858
RDT&E Articles Quantity				

FY06: Conduct testing in support of MS C and Full Rate Production Decisions. Create acquisition documents that provide capabilities, production, testing and logistic documentation. Investigate the Server Virtualization Development that provides ability to run multiple virtual servers on one physical server reducing the server/rack footprint and creating a scalable MLS solution. Investigate MLS/MSL technology that will further reduce the network infrastructure. Complete development of unit-level design.

FY07: Further investigate the Server Virtualization Development that provides ability to run multiple virtual servers on one physical server reducing the server/rack footprint and creating a scalable MLS solution. Continue to look into the MLS/MSL security technology that will further reduce the network infrastructure. Investigate VoIP technology for coalition enclaves.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System	PROJECT NUMBER AND NAME 2307 Integrated Shipboard Network System SubLAN (ISNS/SubLAN)		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
ISNS/SubLAN	0.309	0.498	0.373	0.414
RDT&E Articles Quantity				
<p>FY(04-FY05): Continue to investigate, develop and test next generation LAN Protocols (including Wireless LAN, Network management and administration, Secure/Nonsecure Voice, Internet Protocol Video and IPv6 and Quality of Service protocols) for potential incorporation into the SubLAN architecture. Investigate, integrate and test data prioritization, advanced data storage and management, next generation server/workstation operation systems and secure operating systems, server/workstation consolidation and fixes for security vulnerabilities. Perform studies to increase availability and survivability of networks and reduce network infrastructure footprint. Perform disaster recovery plan and develop incremental spiral to mitigate major data and service disasters. Continual investigation of protocols, hardware, and software for insertion into the LAN architecture is driven by eighteen month technology change cycle and maintaining a secure network against evolving threats. Perform follow-on system developmental and operational testing. Perform developmental testing and operational testing of SubLAN Increment 1 architecture. The testing events will support a FRP decision for SubLAN 1.</p> <p>FY06: Continue to investigate, develop and test major and minor data and service disasters improvements, dual IPv4 and Ipv6 routing architectures. Investigate and test Storage Attached Network (SAN), Network Attached Storage (NAS) architectures in support of server consolidation. Design and test increased availability and survivability network solutions. Further investigate increasing availability and survivability of networks and reduction of network infrastructure footprint. Investigate increased security technologies that will monitor and control network and server data. Increase submarine wireless network throughput.</p> <p>FY07: Investigate, develop and test server consolidation architectures using multi-Secure server Operating Systems. Continue to investigate, develop and test SAN, NAS, server consolidation, and IP telephony architectures. Perform DT/OT on SubLAN Increment 2.</p>				
	FY 04	FY 05	FY 06	FY 07
	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System	PROJECT NUMBER AND NAME 2307 Shipboard LAN/WAN/Integrated Shipboard Network System (ISNS)

(U) C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
(U) Funding:				
FY 2005 President's Budget	1.026	1.685	1.241	1.366
FY 2006 President's Budget	1.027	1.661	3.052	3.240
Total Adjustments	0.001	-0.024	1.811	1.874
Summary of Adjustments				
Congressional Adjustments				
Congressional Rescissions		-0.024		
Reprogrammings	0.005			
Programmatic Adjustments			1.801	1.837
Economic Assumptions			0.011	0.015
Pricing Adjustments			-0.001	0.022
SBIR/STTR Transfers	-0.004			
Subtotal	0.001	-0.024	1.811	1.874

(U) Schedule:

Previously, the ISNS program funded both ISNS and SubLAN (previously TIDS) programs. Programmatic direction has established ISNS and SubLAN as separate programs. ADM of FEB 09, 2004 authorizes SubLAN program to enter post Milestone C, authorizes LRIP, and directs obtaining an ACAT III designation. SubLAN ACAT III designation was authorized on May 13 2004. The schedule has been revised to reflect separate ISNS and SubLAN programs, with their own LRIP and testing events.

(U) Technical:

R-1 SHOPPING LIST - Item No. 91

UNCLASSIFIED

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System			PROJECT NUMBER AND NAME 2307 Shipboard LAN/WAN/Integrated Shipboard Network System (ISNS)				
(U) D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
OPN 0204163N ISNS	118.795	71.026	155.694	119.636	184.365	227.918	209.673	206.103	Cont	Cont
 (U) E. ACQUISITION STRATEGY:										
A common acquisition strategy for ISNS and SubLAN is being developed for post FRP production.										
 (U) F. Major Performers:										
Spawar System Center Charleston, Charleston South Carolina. Software Support Activity Spawar System Center San Diego, San Diego CA. Baseline and interface design and testing for both hardware and software Naval Undersea Warfare Center, Newport RI. SubLAN baseline and interface design and testing for both hardware and software. SAIC, San Diego CA. Studies and rack designs of COTS equipment.										

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CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 1)									DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604231N Tactical Command System			2307 Shipboard LAN/WAN/Integrated Shipboard Network System (ISNS)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	MIPR	FEDSIM/SAIC	1.635								1.635	0.000
Primary Hardware Development	WX	SSC CH	2.132	0.538	12/04	0.998	12/05	1.065	12/06	Continuing	Continuing	0.000
Primary Hardware Development	WX	SSC SD	1.624	0.407	12/04	0.762	12/05	0.814	12/06	Continuing	Continuing	0.000
Primary Hardware Development	TMM	EDS	0.196								0.196	0.000
Systems Engineering	MIPR	MITRE	0.426								0.426	0.000
Systems Engineering	MIPR	FEDSIM/SAIC	1.498								1.498	0.000
Systems Engineering	Various	Various	0.810	0.227	12/04	0.410	12/05	0.432	12/06	Continuing	Continuing	0.000
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			8.322	1.172		2.170		2.311		0.000	3.755	0.000
Remarks:												
Development Support											0.000	0.000
Software Development											0.000	0.000
Training Development											0.000	0.000
Integrated Logistics Support											0.000	0.000
Configuration Management											0.000	0.000
Technical Data											0.000	0.000
GFE											0.000	0.000
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												

R-1 SHOPPING LIST - Item No. 91

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CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)									DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604231N Tactical Command System			PROJECT NUMBER AND NAME 2307 Shipboard LAN/WAN / Integrated Shipboard Network System (ISNS)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Test & Evaluation	WX	SSC CH	0.743	0.105	12/04	0.189	12/05	0.199	12/06	Continuing	Continuing	0.000
Test & Evaluation	WX	SSD SD	1.378	0.195	12/04	0.353	12/05	0.372	12/06	Continuing	Continuing	0.000
Test & Evaluation	WX	SSC Chespk	0.755	0.105	12/04	0.189	12/05	0.199	12/06	Continuing	Continuing	0.000
Operational Test & Evaluation	WR	OPTEVFOR	0.348	0.050	12/04	0.090	12/05	0.095	12/06	Continuing	Continuing	0.000
Tooling											0.000	0.000
GFE											0.000	0.000
Award Fees												
Subtotal T&E			3.224	0.455		0.821		0.865		0.000	5.365	0.000
Remarks:												
Contractor Engineering Support											0.000	0.000
Government Engineering Support											0.000	0.000
Program Management Support	WX	SSC CH	0.257	0.034	12/04	0.061	12/05	0.064	12/06	Continuing	Continuing	0.000
Travel											0.000	0.000
Subtotal Management			0.257	0.034		0.061		0.064		0.000	0.416	0.000
Remarks:												
Total Cost			11.803	1.661		3.052		3.240		0.000	19.756	0.000
Remarks:												

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE: February 2005									
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5										PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System										PROJECT NUMBER AND NAME 2307 Shipboard LAN/WAN / Integrated Shipboard Network System (ISNS)													
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
Acquisition Milestones ISNS Incr 1		△ MSC								FRP △																							
Prototype Phase																																	
System Development (e.g., Radar System dev.)	ISNS Increment 1																																
Equipment Delivery (e.g., EDM Radar Delivery)																																	
Software SW deliveries		△ 2.X							△ 3.X						△ 4.X												△ 5.X						
Test & Evaluation Milestones ISNS Development Test ISNS Operational Test		DT IA				DTIB		OTI	DTIL		FOTE				DT	DT		FOTE								DT	DT		FOTE				
Production Milestones ISNS LRIP I	ISNS Incr LRIP																																
Deliveries																																	

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 70 of 105)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE: February 2005								
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5								PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System								PROJECT NUMBER AND NAME 2307 CENTRIXS																
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones											△ MSC				△ FRP				△ MSC			△ FRP				△ MSC			△ FRP			
Prototype Phase																																
System Development (e.g., Radar System dev.)									SD INC II								SD INC III								SD INC IV							
Equipment Delivery (e.g., EDM Radar Delivery)																																
Software 1XXSW Delivery 2XXSW Delivery								△	3.X***						△	4.X***																
Test & Evaluation Milestones																																
Development Test											DT								DT								DT					
Operational Test												OT								OT								OT				
Production Milestones																																
LRIP I											INC II LRIP																					
LRIP II																			INC III LRIP													
FRP																																
Deliveries																																

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***CENTRIXS software is greatly leveraged off the ISNS program.

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Exhibit R-2a, RD TEN Project Justification
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EXHIBIT R4, Schedule Profile																										DATE: February 2005						
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5										PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System										PROJECT NUMBER AND NAME 2307 Integrated Shipboard Network System (ISNS/SubLAN)												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones SubLAN Incr 1 SubLAN Incr 2		△	MSC SubLAN 1							△	FRP SubLAN 1								△	FRP SubLAN 2												
Prototype Phase																																
System Development (e.g., Radar System dev.)		SubLAN 1					SubLAN 2																									
Equipment Delivery (e.g., EDM Radar Delivery)																																
Software SW deliveries		△	2.X							△	3.X							△	4.X								△	5.X				
Test & Evaluation Milestones SubLAN Incr 1 Dev Test SubLAN Incr 1 OpTest SubLAN Incr 2 Dev Test SubLAN Incr 2 OpTest						DT																										
							OT																									
Production Milestones SubLAN Incr 1 LRIP SubLAN Incr 2 LRIP		SubLAN 1 LRIP																														
Deliveries																																

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 74 of 105)

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CLASSIFICATION:								
EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM				PROJECT NUMBER AND NAME 3032 NTCSS ENTERPRISE DATABASE AND MLDN		
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Project Cost		\$3.144	\$0.070	\$0.048	\$0.048	\$0.055	\$0.053	\$0.053
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: 3032. Navy Tactical Command Support Systems (NTCSS) - This RDT&E,N Project funding supports design, development and testing of the Navy Tactical Command Support Systems (NTCSS) web initiative. A web-enabled NTCSS will place all NTCSS databases into a similar structure, allowing greater interoperability between applications and will facilitate the movement of administrative workload from ships to shore.</p> <p>(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under ENGINEERING AND MANUFACTURING DEVELOPMENT because it encompasses engineering and manufacturing development of new end-items prior to production approval decision.</p>								

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																														
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA - 5	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 3032 NTCSS ENTERPRISE DATABASE AND MLDN																																															
(U) B. Accomplishments/Planned Program																																																	
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">3.144</td><td style="text-align: center;">0.070</td><td style="text-align: center;">0.048</td><td style="text-align: center;">0.048</td></tr><tr><td>RDT&E Articles Quantity</td><td style="text-align: center;">1</td><td style="text-align: center;">1</td><td style="text-align: center;">1</td><td style="text-align: center;">1</td></tr></tbody></table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"><p>FY2004 Accomplishments: Web-enabled unit-level NTCSS applications.</p><p>FY2005, FY2006 AND FY2007 PLAN: Continue Web-enabling of NTCSS applications.</p></div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; height: 70px; margin-top: 10px;"></div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; height: 70px; margin-top: 10px;"></div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	3.144	0.070	0.048	0.048	RDT&E Articles Quantity	1	1	1	1		FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000	RDT&E Articles Quantity						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07																																													
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RDT&E Articles Quantity	1	1	1	1																																													
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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																							
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA - 5	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 3032 NTCSS ENTERPRISE DATABASE AND MLDN																																																																								
<p>(U) C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"></th> <th style="text-align: right;">FY 2004</th> <th style="text-align: right;">FY 2005</th> <th style="text-align: right;">FY 2006</th> <th style="text-align: right;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>(U) Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY 2005 President's Budget</td> <td style="text-align: right;">3.277</td> <td style="text-align: right;">0.071</td> <td style="text-align: right;">0.047</td> <td style="text-align: right;">0.047</td> </tr> <tr> <td>FY 2006 President's Budget</td> <td style="text-align: right;">3.144</td> <td style="text-align: right;">0.070</td> <td style="text-align: right;">0.048</td> <td style="text-align: right;">0.048</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-0.133</td> <td style="text-align: right; border-top: 1px solid black;">-0.001</td> <td style="text-align: right; border-top: 1px solid black;">0.001</td> <td style="text-align: right; border-top: 1px solid black;">0.001</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional Adjustments</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional Rescissions</td> <td></td> <td style="text-align: right;">-0.001</td> <td></td> <td></td> </tr> <tr> <td> Reprogrammings</td> <td style="text-align: right;">-0.133</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Programmatic Adjustments</td> <td></td> <td></td> <td style="text-align: right;">-0.001</td> <td style="text-align: right;">0.001</td> </tr> <tr> <td> Economic Assumptions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Pricing Adjustments</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> SBIR/STTR Transfers</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Subtotal</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.133</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.001</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.001</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">0.001</td> </tr> </tbody> </table> <p style="margin-top: 20px;">(U) Schedule: Not Applicable</p> <p style="margin-top: 40px;">(U) Technical: Not Applicable</p>						FY 2004	FY 2005	FY 2006	FY 2007	(U) Funding:					FY 2005 President's Budget	3.277	0.071	0.047	0.047	FY 2006 President's Budget	3.144	0.070	0.048	0.048	Total Adjustments	-0.133	-0.001	0.001	0.001	Summary of Adjustments					Congressional Adjustments					Congressional Rescissions		-0.001			Reprogrammings	-0.133				Programmatic Adjustments			-0.001	0.001	Economic Assumptions					Pricing Adjustments					SBIR/STTR Transfers					Subtotal	-0.133	-0.001	-0.001	0.001
	FY 2004	FY 2005	FY 2006	FY 2007																																																																						
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Economic Assumptions																																																																										
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Subtotal	-0.133	-0.001	-0.001	0.001																																																																						

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 78 of 105)

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CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604231N - TACTICAL COMMAND SYSTEM			3032 NTCSS ENTERPRISE DATABASE AND MLDN						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Various	Various	0.668								0.668	0.000
Ancillary Hardware Development											0.000	0.000
Systems Engineering	Various	Various	1.000								1.000	0.000
Licenses	Various	Various	0.700								0.700	0.000
Tooling											0.000	0.000
GFE											0.000	0.000
Award Fees											0.000	0.000
Subtotal Product Development			2.368	0.000		0.000		0.000		0.000	2.368	0.000
Remarks:												
Development Support											0.000	0.000
Software Development	Various	Various	7.739	0.070	10/04	0.048	10/05	0.048	10/06		7.905	0.000
Training Development											0.000	0.000
Integrated Logistics Support											0.000	0.000
Configuration Management	Various	Various	0.460								0.460	0.000
Technical Data	Various	Various	0.200								0.200	0.000
GFE											0.000	0.000
Subtotal Support			8.399	0.070		0.048		0.048		0.000	8.565	0.000
Remarks:												

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CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)									DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM			PROJECT NUMBER AND NAME 3032 NTCSS ENTERPRISE DATABASE AND MLDN						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various	0.585								0.585	0.000
Operational Test & Evaluation											0.000	0.000
Live Fire Test & Evaluation											0.000	0.000
Test Assets											0.000	0.000
Tooling											0.000	0.000
GFE											0.000	0.000
Subtotal T&E			0.585	0.000		0.000		0.000		0.000	0.585	0.000
Remarks:												
Contractor Engineering Support	Various	Various	0.896								0.896	0.000
Government Engineering Support	Various	Various	0.279								0.279	0.000
Program Management Support											0.000	0.000
Travel											0.000	0.000
Subtotal Management			1.175	0.000		0.000		0.000		0.000	1.175	0.000
Remarks:												
Total Cost			12.527	0.070		0.048		0.048		0.000	12.693	0.000
Remarks:												

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																					DATE: February 2005											
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5									PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM									PROJECT NUMBER AND NAME 3032 NTCSS ENTERPRISE DATABASE AND MLDN														
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones																																
Prototype Phase																																
System Development																																
Equipment Delivery																																
Software Delivery				X				X				X				X				X				X				X				
Test & Evaluation Milestones																																
NTCSS web services FOT&E						X				X				X			X			X				X				X				
Development Test																																
Operational Test																																
Production Milestones																																
LRIP I																																
LRIP II																																
FRP							X				X			X			X			X				X				X				
Deliveries																																

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&BA-5	0604231N - TACTICAL COMMAND SYSTEM				3032 NTCSS ENTERPRISE DATABASE AND MLDN			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Contract Preparation								
Software Specification Review (SSR)								
Preliminary Design Review (PDR)	Q3-Q4	Q1-Q2	Q1-Q2	Q1-Q2	Q1-Q2	Q1-Q2	Q1-Q2	Q1-Q2
System Development		Q3-Q4	Q3-Q4	Q3-Q4	Q3-Q4	Q3-Q4	Q3-Q4	Q3-Q4
Critical Design Review (CDR)								
Quality Design and Build								
Test Readiness Review (TRR)								
Developmental Testing (DT-IIA)								
Eng Dev Model (EDM) Radar Delivery - Lab								
Software Delivery	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4
Preproduction Readiness Review (PRR)								
EDM Radar Delivery - Flt Related								
Milestone C (MS C)								
Operational Testing (OT-IIA)								
Start Low-Rate Initial Production I (LRIP I)								
Software Delivery 2XXSW								
Developmental Testing (DT-IIB1)								
Developmental Testing (DT-IIB2)								
Start Low-Rate Initial Production II								
Operational Testing (OT-IIB)								
Developmental Testing (DT-IIC)								
Functional Configuration Audit (FCA)								
Low-Rate Initial Production I Delivery								
Technical Evaluation (TECHEVAL)								
Physical Configuration Audit								
Operational Evaluation (OT-IIC) (OPEVAL)								
Low-Rate Initail Production II Delivery								
IOC								
Full Rate Production (FRP) Decision		Q3	Q4	Q4	Q4	Q4	Q4	Q4
Full Rate Production Start		Q4	Q4	Q4	Q4	Q4	Q4	Q4
First Deployment		Q4	Q4	Q4	Q4	Q4	Q4	Q4

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 82 of 105)

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CLASSIFICATION:									
EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System				PROJECT NUMBER AND NAME 9123 FORCEnet			
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		\$9.668	\$15.473	\$15.493	\$17.233	\$19.107	\$20.857	\$21.294	\$21.630
RDT&E Articles Qty									
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>FORCEnet is the Navy and Marine Corps initiative to achieve Network Centric Warfare and Joint Transformation. FORCEnet is the enabler of Sea Power 21, Naval Power 21, the Naval Operating Concept for Joint Operations, and the Department of the Navy's Naval Transformation Roadmap. FORCEnet is executing these policies as detailed in the Secretary of the Navy's <i>Report to Congress on FORCEnet</i> (16 May 03).</p> <p>The FORCEnet project line funds four efforts:</p> <p>(1) <u>Strategic Planning</u>: Develops and establishes Navy-wide FORCEnet policy, planning, compliance, and investment strategy, supporting implementation of Network Centric Warfare. Drives DoN/DoD transformation efforts, accelerated innovation/testing/assessment/fielding of warfighter capability, Joint/Allied/Coalition interoperability, and establishment of enterprise FORCEnet requirements.</p> <p>(2) <u>Accelerating Joint Warfighting Capabilities</u>: Enables early delivery of Network Centric Warfare capabilities to the warfighter via Fleet-directed Trident Warrior operational events. Integrates stand-alone systems and efforts to achieve substantially enhanced capability, demonstrates/tests these capabilities in both laboratory and operational environments, and evaluates their effectiveness. Coordinates FORCEnet efforts with other Service/Joint/DoD/National efforts to ensure Joint/Interagency/Allied/Coalition applicability and interoperability.</p> <p>(3) <u>FORCEnet Compliance Implementation</u>: Develops technical approaches for FORCEnet compliance in response to top-level policy and direction, and integrates into overall DoN/DoD/Agency planning. Develops testing and evaluation for FORCEnet compliance. Provides industry outreach for commercial solutions. Develops and implements interoperability and Network Centric Warfare criteria in acquisition programs via FORCEnet Pilot/Pathfinders and other efforts.</p> <p>(4) <u>Osprey Hawksbill</u> - This is a classified program.</p>									

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System	PROJECT NUMBER AND NAME 9123 FORCEnet		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	9.668	15.473	15.493	17.233
RDT&E Articles Quantity				
<p>FY 04 Accomplishments under each effort include the following:</p> <p>(1) Strategic Planning:</p> <ul style="list-style-type: none"> - Developed 2004 Update of the FORCEnet Campaign Plan, providing near-term implementation products, governance, and timelines for the Navy and Marine Corps. - Developed FORCEnet Vision for 2020, providing top-level, long-term goals and planning. - Validated FORCEnet Requirements/Architectures/Standards Spiral 1; transitioned to FORCEnet Compliance. - Developed FORCEnet Consolidated Compliance Checklist; gained endorsement from cognizant representatives of the Services, Combatant Commanders, Joint Forces Command, Joint Chiefs of Staff, and the Office of the Under Secretary of Secretary of Defense (Acquisition, Technology, and Logistics) via successful reviews with the Net Ready (NR) and Command & Control (C2) Functional Capability Boards. - Developed FORCEnet Reference Model framework, for use in developing investment strategy planning. - Established FORCEnet Human Systems Integration (HSI) Working Group; developed coordinated HSI planning with Naval, Service, Joint, Allied, and Coalition organizations. - Developed FORCEnet Analysis Report, providing the analytic framework and associated metrics to assess the measurable improvements in warfighting capability that FORCEnet provides. <p>(2) Accelerating Joint Warfighting Capabilities:</p> <ul style="list-style-type: none"> - Initiated the FORCEnet spiral development process, including FORCEnet laboratory and operational events to develop/integrate enhanced joint warfighting capability and supporting Tactics/Techniques/Procedures, CONOPS, and to mature FORCEnet requirements. - Fielded initial prototype FORCEnet capabilities (dynamic multipath survivable networks, distributed collaborative command and control, and expeditionary multi-tiered weapons and sensors) in the USS TARAWA Expeditionary Strike Group via Trident Warrior 04 Exercise. - Developed planning for follow-on FORCEnet "Speed to Capability" effort in FY 05 in Second Fleet Naval Units, with a focus Allied/Coalition interoperability. <p>(3) FORCEnet Compliance Implementation:</p> <ul style="list-style-type: none"> - Developed FORCEnet compliance implementation planning; deferred to FY 05 for execution. <p>(4) Osprey Hawksbill - This is a classified program.</p>				

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System	PROJECT NUMBER AND NAME 9123 FORCEnet
<p>(U) B. Accomplishments/Planned Program</p> <p>FY05 Planning:</p> <ol style="list-style-type: none"> 1) Strategic Planning: Develop expanded Joint/Allied/Coalition coordination/policy/planning. Validate FORCEnet Requirements/Architectures/Standards Spiral 2. Update FORCEnet Consolidated Compliance Checklist, integrate with broader Service/DoD checklists and policies, and establish planning for formal Navy-wide implementation. Support two (2) FORCEnet Operational Assessment Group (OAG) meetings. Support development of the OAG final report which will define the FORCEnet Universal Needs Catalogue. 2) Accelerating Joint Warfighting Capabilities: Develop FY05-06 FORCEnet Sea Trial Plan, Develop a FORCEnet Engagement Packs (FnEP) Implementation Plan. Implement a prototype FnEP in Time Critical Targeting and Tactical Ballistic Missile Defense. Develop and implement a process to work with Industry for FORCEnet technology. Execute Trident Warrior 05 in the 2nd Fleet AOR with focus on FORCEnet Coalition/Allied Interoperability. 3) FORCEnet Compliance Implementation: Develop FORCEnet Integrated Baseline. Develop FORCEnet compliance assessment tools, Develop FORCEnet compliance test procedures and test methodologies. Refine Fn compliance metrics and define levels of compliance. Conduct compliance testing/assessment reviews and report on compliance adherence to CFFC and ASN RDA. Implement FY05 FORCEnet Pilots/Pathfinders to insert FORCEnet compliance into Acquisition Programs. Report on major contracts/acquisitions reflecting FORCEnet compliance adherence. Plan FY06 FORCEnet Pilots/Pathfinders. 4) Osprey Hawksbill - This is a classified program. <p>FY06-FY07 Planning:</p> <ol style="list-style-type: none"> 1) Strategic Planning: Refine expanded Joint/Allied/Coalition coordination/policy/planning. Validate FORCEnet Requirements/Architectures/Standards Spirals 3 and 4. Update integrated FORCEnet Consolidated Compliance Checklist and executed formal Navy-wide implementation. Support two (2) FORCEnet Operational Assessment Group (OAG) meetings in FY06 and FY07. Support development of FY06/07 OAG final reports, and integrate results into policy/planning. 2) Accelerating Joint Warfighting Capabilities: Develop FY06-07-08 FORCEnet Sea Trial Plan. Implement prototype FORCEnet Engagement Packs in a FORCEnet "speed to capability" effort in Anti-Submarine Warfare, Mine Warfare, and Anti-Surface Warfare in FY 06 and FY 07 respectively. Develop/conduct Industry collaborative efforts and develop roadmap for FORCEnet commercial technology insertion. Plan and execute Trident Warrior 06/07 operational events to accelerate transition of FORCEnet capability to the Fleet. Trident Warrior 06 is scheduled with C3F CSG / ESG units, USMC MCCDC and I MEF and AUSCANZUKUS Multi-National Task Group focused on Expeditionary Warfare. Trident Warrior 07 is scheduled with C2F CSG / ESG units and AUSCANZUKUS Multi-National Task Group focused on Joint Sea Basing. Perform Military Utility Assessments on previously delivered FORCEnet capability. Report results, and integrate into Strategic Planning. 3) FORCEnet Compliance Implementation: Perform POR compliance reviews using validated assessment tools, compliance test procedures/methodologies. Report POR level of Fn compliance to CFFC and ASN(RD&A). Refine/update FORCEnet Integrated Baseline and insert compliance data/results. Develop recommended future (FY08+) FORCEnet Pilots/Pathfinders. Conduct FY06-FY07 FORCEnet Pilots/Pathfinders; report results and integrate into Strategic Planning. 4) Osprey Hawksbill - This is a classified program. 		

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System	PROJECT NUMBER AND NAME 9123 FORCEnet																																																																			
<p>(U) C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 35%;">(U) Funding:</th> <th style="text-align: right; width: 15%;">FY 2004</th> <th style="text-align: right; width: 15%;">FY 2005</th> <th style="text-align: right; width: 15%;">FY 2006</th> <th style="text-align: right; width: 15%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>FY2005 President's Budget</td> <td style="text-align: right;">7.759</td> <td style="text-align: right;">15.630</td> <td style="text-align: right;">17.095</td> <td style="text-align: right;">19.034</td> </tr> <tr> <td>FY2006 President's Budget</td> <td style="text-align: right;">9.668</td> <td style="text-align: right;">15.473</td> <td style="text-align: right;">15.493</td> <td style="text-align: right;">17.233</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">1.909</td> <td style="text-align: right; border-top: 1px solid black;">-0.157</td> <td style="text-align: right; border-top: 1px solid black;">-1.602</td> <td style="text-align: right; border-top: 1px solid black;">-1.801</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional Adjustments</td> <td></td> <td style="text-align: right;">-0.138</td> <td></td> <td></td> </tr> <tr> <td> Congressional Rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Reprogrammings</td> <td style="text-align: right;">1.953</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Programmatic Adjustments</td> <td></td> <td style="text-align: right;">-0.019</td> <td style="text-align: right;">-1.598</td> <td style="text-align: right;">-1.931</td> </tr> <tr> <td> Economic Assumptions</td> <td></td> <td></td> <td style="text-align: right;">0.011</td> <td style="text-align: right;">0.077</td> </tr> <tr> <td> Pricing Adjustments</td> <td></td> <td></td> <td style="text-align: right;">-0.015</td> <td style="text-align: right;">0.053</td> </tr> <tr> <td> SBIR/STTR Transfers</td> <td style="text-align: right;">-0.044</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Subtotal</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">1.909</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.157</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-1.602</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-1.801</td> </tr> </tbody> </table> <p>(U) Schedule: Not Applicable</p> <p>(U) Technical: Not Applicable</p>					(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007	FY2005 President's Budget	7.759	15.630	17.095	19.034	FY2006 President's Budget	9.668	15.473	15.493	17.233	Total Adjustments	1.909	-0.157	-1.602	-1.801	Summary of Adjustments					Congressional Adjustments		-0.138			Congressional Rescissions					Reprogrammings	1.953				Programmatic Adjustments		-0.019	-1.598	-1.931	Economic Assumptions			0.011	0.077	Pricing Adjustments			-0.015	0.053	SBIR/STTR Transfers	-0.044				Subtotal	1.909	-0.157	-1.602	-1.801
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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005																								
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA- 5		PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System			PROJECT NUMBER AND NAME 9123 FORCEnet																										
<p>(U) D. OTHER PROGRAM FUNDING SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Line Item No. & Name</u></th> <th style="text-align: center;"><u>FY 2004</u></th> <th style="text-align: center;"><u>FY 2005</u></th> <th style="text-align: center;"><u>FY 2006</u></th> <th style="text-align: center;"><u>FY 2007</u></th> <th style="text-align: center;"><u>FY 2008</u></th> <th style="text-align: center;"><u>FY 2009</u></th> <th style="text-align: center;"><u>FY 2010</u></th> <th style="text-align: center;"><u>FY 2011</u></th> <th style="text-align: center;"><u>To Complete</u></th> <th style="text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td colspan="11">Not Applicable</td> </tr> </tbody> </table>										<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>	Not Applicable										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>																					
Not Applicable																															
<p>(U) E. ACQUISITION STRATEGY:</p> <p>Not Applicable</p>																															
<p>(U) F. MAJOR PERFORMERS:</p> <p>FY 2004 / FY 2005 / FY 2006 / FY 2007: Fedsim/SAIC, Alexandria, VA: End-to-End Mission Support Booz Allen Hamilton, CA: System Engineering Support SSC, San Diego, CA: TWO4 Risk Reduction LOE, Test Director, Tech Lead, Analysis Support, Network Engineering Support, Install Support Naval Post Graduate School, CA: Analysis Support and Analysis Lead DTIC, VA: NETWARCOM Engineering IA Support</p>																															

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CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA- 5			PROGRAM ELEMENT 0604231N Tactical Command System			PROJECT NUMBER AND NAME 9123 FORCEnet						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	0.000
Ancillary Hardware Development											0.000	0.000
Aircraft Integration											0.000	0.000
Ship Integration	Various	Various	0.935								0.935	0.000
Ship Suitability											0.000	0.000
Systems Engineering	Various	Various	1.600								1.600	0.000
Award Fees											0.000	0.000
Subtotal Product Development			2.535	0.000		0.000		0.000		0.000	2.535	0.000
Remarks:												
Development Support	Various	Various	2.700								2.700	0.000
Software Development	Various	Various	2.900								2.900	0.000
Integrated Logistics Support											0.000	0.000
Configuration Management											0.000	0.000
Technical Data											0.000	0.000
Osprey Hawkbill & JDSS	Various	Various	3.281	2.934	Various	2.900	Various	2.900	Various	Continuing	Continuing	0.000
GFE											0.000	0.000
Subtotal Support			8.881	2.934		2.900		2.900		0.000	17.615	0.000
Remarks:												

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CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604231N Tactical Command System			PROJECT NUMBER AND NAME 9123 FORCEnet						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various	1.300								1.300	0.000
FORCEnet Speed to Capability	Various	Various		5.839	Various	5.893	Various	7.633	Various	Continuing	Continuing	0.000
FORCE Compliance				3.000	Various	3.000	Various	3.000	Various	Continuing	Continuing	0.000
Strategic Planning & Implementation			1.953	3.700	Various	3.700	Various	3.700	Various	Continuing	Continuing	0.000
Tooling											0.000	0.000
GFE											0.000	0.000
Subtotal T&E			3.253	12.539		12.593		14.333		0.000	42.718	0.000
Remarks:												
Technical Support			2.124								2.124	0.000
Government Engineering Support			3.899								3.899	0.000
Program Management Support			0.800								0.800	0.000
Travel			0.299								0.299	0.000
Subtotal Management			7.122			0.000		0.000			7.122	0.000
Remarks:												
Total Cost			21.791	15.473		15.493		17.233		0.000	69.990	0.000
Remarks:												

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EXHIBIT R4, Schedule Profile																										DATE:						
Not Applicable																										February 2005						
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME												
RDT&E,N / BA-5										0604231N Tactical Command System										9123 FORCEnet												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Not Applicable																																

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification									DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System				PROJECT NUMBER AND NAME 9372 3D Common Operational Picture					
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Total Program
Project Cost		1.636	2.566	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.202
RDT&E Articles Qty											0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:.

FY 04 Congressional Add will provide a three-dimensional visualization for critical core GCCS-M Common Operational Picture (COP) capabilities and services. This includes track symbology, geospatial overlays, tactical decision aids to support aerospace operations planning and execution such as air corridors and airspace use areas, and topographic analysis support functions such as sensor coverage areas, fade zones, and terrain masking.

FY05 Congressional Add will provide for the requirements analysis, design, software development, testing and demonstration support necessary to mature a GCCS-M 3-D capability. Specific capability improvements include performance analysis and improvement, full Range Ring / Drop Down line capability, 3D model scaling (relative sizes), enhanced automatic model selection for other track types (Units, Link, etc.), improved track hook (more attributes), additional overlay display in 3D (mission routes, etc.), enhanced support for Space and Missile tracks, I3 access for sensor coverage areas, collaboration tools, 3D Display issues (No Altitude, No Z axis, etc.), record/replay feature (possible Experiment / Demo).

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System	PROJECT NUMBER AND NAME 9372 3D Common Operational Picture																					
(U) B. Accomplishments/Planned Program																							
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		FY 04	FY 05	FY 06	FY 07																		
Accomplishments/Effort/Subtotal Cost		1.636	2.566	0.000	0.000																		
RDT&E Articles Quantity																							
<div style="border: 1px solid black; min-height: 300px; margin-top: 10px;"><p>FY2004: Congressional Add provided a three-dimensional visualization for critical core GCCS-M Common Operational Picture (COP) capabilities and services. This included track symbology, geospatial overlays, tactical decision aids to support aerospace operations planning and execution such as air corridors and airspace use areas, and topographic analysis support functions such as sensor coverage areas, fade zones, and terrain masking.</p><p>FY05 :</p><p>Congressional Add will provide for the requirements analysis, design, software development, testing and demonstration support necessary to mature a GCCS-M 3-D capability. Specific capability improvements include performance analysis and improvement, full Range Ring / Drop Down line capability, 3D model scaling (relative sizes), enhanced automatic model selection for other track types (Units, Link, etc.), improved track hook (more attributes), additional overlay display in 3D (mission routes, etc.), enhanced support for Space and Missile tracks, I3 access for sensor coverage areas, collaboration tools, 3D Display issues (No Altitude, No Z axis, etc.), record/replay feature (possible Experiment / Demo).</p></div>																							

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																							
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R-1 SHOPPING LIST - Item No. 91

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005																					
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604231N Tactical Command System		PROJECT NUMBER AND NAME 9372 3D Common Operational Picture																							
<p>(U) D. OTHER PROGRAM FUNDING SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Line Item No. & Name</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2003</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2004</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2005</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2006</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2007</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2008</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2009</th> <th style="text-align: center; border-bottom: 1px solid black;">To Complete</th> <th style="text-align: center; border-bottom: 1px solid black;">Total Cost</th> </tr> </thead> <tbody> <tr> <td colspan="10" style="padding-top: 20px;">Not Applicable</td> </tr> </tbody> </table> <p style="margin-top: 40px;">(U) E. ACQUISITION STRATEGY:</p> <p style="margin-left: 20px;">Not Applicable</p> <p style="margin-top: 40px;">(U) F. Major Performers:</p> <p style="margin-left: 20px;">Northrop Grumman Management Systems (NGMS) provides software development and integration for GCCS-M.</p>								Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost	Not Applicable									
Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost																		
Not Applicable																											

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE&E, N / BA-5			0604231N - TACTICAL COMMAND SYSTEM			9372 3D Common Operational Picture						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering											0.000	
Training Development											0.000	
Licenses	CPAF	Northrup Grumman	0.000	0.825	02/05	0.000		0.000		0.000	0.825	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	0.825		0.000		0.000		0.000	0.825	
Remarks:												
Development Support											0.000	
Software Development	CPAF	Northrup Grumman	1.636	1.481	02/05	0.000		0.000		0.000	3.117	
Integrated Logistics Support	CPAF	Northrup Grumman	0.000	0.180	02/05	0.000		0.000		0.000	0.180	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses	CPAF	Northrup Grumman	0.000	0.080	02/05	0.000		0.000		0.000	0.080	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			1.636	1.741		0.000		0.000		0.000	3.377	
Remarks:												

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-5			PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM			PROJECT NUMBER AND NAME 9372 3D Common Operational Picture						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support												
Travel											0.000	
Transportation											0.000	
											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			1.636	2.566								
Remarks:												

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Exhibit R-2a, RDTE Project Justification
(Exhibit R-2a, page 97 of 105)

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM				PROJECT NUMBER AND NAME 9373 AN/UYQ-70 BASED IT-21 C4ISR UPGRADES		
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Project Cost		2.450	4.161	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Information Technology for the 21st Century Block 1 C4ISR Computing Equipment (IT-21 BLK 1) is developmental engineering effort that will add functionality and focus on improving supportability of deployed systems that reduces fleet maintenance and training requirements. Many of the C4ISR and other similar applications run on outdated, unsupported equipment. Existing computer systems are inadequate to host the software that is needed to improve the functionality of fleet C4ISR systems. Innovations in network solutions are needed to support existing needs as well as provide sufficient growth potential for additional functionality. Commercially produced products suffer from the lack of coordination of technology upgrades and life cycle support that plagued the TAC series of equipment. C4ISR systems have become critical to the overall effectiveness of deployed units. Access to information located anywhere (network centric warfare) is needed to accomplish increasingly complex missions. Legacy equipment was not designed for survivability in harsh combat environments and scenarios. Development of prototypes to replace this legacy equipment will provide a more robust capability under the most demanding conditions, and will also avoid costly and inefficient support of outdated systems. This RDT&E,N funding will be used to develop a common AN/UYQ-70 based solution for IT-21 Block 1 and ultimately ForceNet. Capitalizing on the AN/UYQ-70 Technology allows fast-cycle development and provides improved fleet capability at a reduced cost.</p> <p>(U) JUSTIFICATION FOR BUDGET ACTIVITY:</p> <p>This program is funded under ENGINEERING AND MANUFACTURING DEVELOPMENT because it encompasses engineering and manufacturing development of new end-items prior to production approval decision.</p>								

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 9373 AN/UYQ-70 BASED IT-21 C4ISR UPGRADES																	
(U) B. Accomplishments/Planned Program																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	2.450	4.161	0.000	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 10px; min-height: 250px;"><p>FY2004 Accomplishments:</p><ul style="list-style-type: none">· Researched current C4ISR software applications and designed an integration approach for transition from legacy networks to an enterprise solution. Implemented the C4ISR-T Systems Design effort that incorporated the AN/UYQ-70 rack design.· Developed an overarching Q-70 BLK system integration, test plan and validation that ensured the Q-70 racks were fully integrated and tested.· Developed hardware baseline for integration into the Q-70 servers. Integration included standardized configuration, integrated documentation and integrated software applications.· Developed and implemented an Integrated Logistics Support (ILS) Plan which ensured provisioning, training, technical manuals, support and test equipment (S&TE), Planned Maintenance System (PMS) availability, and other ILS requirements were met.<p>FY2005 PLANS:</p><ul style="list-style-type: none">· Continue design, development and testing of upgraded AN/UYQ-70 IT-21 rack and server.· Continue integration efforts to include standardized configuration, integrated documentation and integrated software applications.· Continue development of Integrated Logistics Support (ILS) Plan.</div>																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000															
RDT&E Articles Quantity																			

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM	PROJECT NUMBER AND NAME 9373 AN/UYQ-70 BASED IT-21 C4ISR UPGRADES		

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY2005 President's Budget	2.521	0.000	0.000	0.000
FY2006 President's Budget	2.450	4.161	0.000	0.000
Total Adjustments	-0.071	4.161	0.000	0.000
Summary of Adjustments				
Congressional Adjustments		4.200		
Congressional Rescissions		-0.039		
Reprogrammings				
Programmatic Adjustments				
Economic Assumptions	-0.002			
Pricing Adjustments				
SBIR/STTR Transfers	-0.069			
Subtotal	-0.071	4.161	0.000	0.000

(U) Schedule:
Not Applicable

(U) Technical:
Not Applicable

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604231N - TACTICAL COMMAND SYSTEM			PROJECT NUMBER AND NAME 9373 AN/UYQ-70 BASED IT-21 C4ISR UPGRADES				
(U) D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	To Complete	Total Cost
OPN 261100 Naval Tactical Command Support System	50.936	30.322	59.226	35.349	31.261	39.609	40.444	41.319		
3032 NTCSS ENTERPRISE DATABASE AND MLDN	3.144	0.070	0.048	0.048	0.055	0.053	0.053	0.054		
(U) E. ACQUISITION STRATEGY:										
The NTCSS Acquisition Strategy is defined in its Single Acquisition Management Plan (SAMP) dtd 7 May 99.										
(U) F. MAJOR PERFORMERS:										
Lockheed Martin: Hardware Development. Award Date: 06/04.										

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604231N - TACTICAL COMMAND SYSTEM			9373 AN/UYQ-70 BASED IT-21 C4ISR UPGRADES						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Various	Various	2.450	4.161	03/05						6.611	0.000
Ancillary Hardware Development											0.000	0.000
Systems Engineering											0.000	0.000
Licenses											0.000	0.000
Tooling											0.000	0.000
GFE											0.000	0.000
Award Fees											0.000	0.000
Subtotal Product Development			2.450	4.161		0.000		0.000		0.000	6.611	0.000
Remarks:												
Development Support											0.000	0.000
Software Development											0.000	0.000
Training Development											0.000	0.000
Integrated Logistics Support											0.000	0.000
Configuration Management											0.000	0.000
Technical Data											0.000	0.000
GFE											0.000	0.000
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604231N - TACTICAL COMMAND SYSTEM			PROJECT NUMBER AND NAME 9373 AN/UYQ-70 BASED IT-21 C4ISR UPGRADES						
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Developmental Test & Evaluation											0.000	0.000
Operational Test & Evaluation											0.000	0.000
Live Fire Test & Evaluation											0.000	0.000
Test Assets											0.000	0.000
Tooling											0.000	0.000
GFE											0.000	0.000
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
Contractor Engineering Support											0.000	0.000
Government Engineering Support											0.000	0.000
Program Management Support											0.000	0.000
Travel											0.000	0.000
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
Total Cost			2.450	4.161		0.000		0.000		0.000	6.611	0.000
Remarks:												

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																							DATE: February 2005									
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME									PROJECT NUMBER AND NAME														
RDT&E, N / BA-5									0604231N - TACTICAL COMMAND SYSTEM									9373 AN/UYQ-70 BASED IT-21 C4ISR UPGRADES														
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																																
Prototype Phase																																
System Development			X	X	X		X	X	X																							
Equipment Delivery				X				X																								
Software Delivery																																
Test & Evaluation Milestones																																
Development Test				X	X			X	X																							
Operational Test					X	X			X	X																						
Production Milestones																																
LRIP I																																
LRIP II																																
FRP						X				X																						
Deliveries																																

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Exhibit R-4a, Schedule Detail						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&BA-5	0604231N - TACTICAL COMMAND SYSTEM				9373 AN/UYQ-70 BASED IT-21 C4ISR UPGRADES			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Prototype Phase								
System Design Review (SDR)/SRR	Q2 - Q3	Q2 - Q3						
Milestone II (MSII)								
Contract Preparation								
Software Specification Review (SSR)								
Preliminary Design Review (PDR)	Q3	Q3						
System Development								
Critical Design Review (CDR)	Q2 - Q3	Q2 - Q3						
Quality Design and Build								
Test Readiness Review (TRR)	Q4	Q4						
Developmental Testing (DT-IIA)	Q4	Q1	Q1					
Eng Dev Model (EDM) Radar Delivery - Lab								
Software Delivery 1XXSW								
Preproduction Readiness Review (PRR) PQR		Q1	Q1					
EDM Radar Delivery - Flt Related								
Milestone C (MS C)								
Operational Testing (OT-IIA)								
Start Low-Rate Initial Production I (LRIP I)								
Software Delivery 2XXSW								
Developmental Testing (DT-IIB1)								
Developmental Testing (DT-IIB2)								
Start Low-Rate Initial Production II								
Operational Testing (OT-IIB)								
Developmental Testing (DT-IIC)								
Functional Configuration Audit (FCA)								
Low-Rate Initial Production I Delivery								
Technical Evaluation (TECHEVAL)								
Physical Configuration Audit								
Operational Evaluation (OT-IIC) (OPEVAL)		Q1	Q1					
Low-Rate Initail Production II Delivery								
IOC								
Full Rate Production (FRP) Decision		Q2	Q2					
Full Rate Production Start		Q2	Q2					
First Deployment		Q2	Q2					

R-1 SHOPPING LIST - Item No. 91

UNCLASSIFIED

Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 105 of 105)

CLASSIFICATION:

UNCLASSIFIED

[illegible]

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Advanced Hawkeye (AHE) program develops, demonstrates, tests, and procures the replacement of the AN/APS-145 radar system and other aircraft system components that modernize the E-2C weapon system to maintain open ocean mission capability while providing the United States Navy (USN) with an effective littoral surveillance and Theater Air and Missile Defense (TAMD) capability. Key radar technologies are Space-Time Adaptive Processing (STAP), Electronically Scanning Array (ESA), solid state transmitter, high dynamic range digital receivers and Identification Friend or Foe (IFF)/radar aperture integration. The resultant detection system will provide a substantially improved overland performance by correcting current sensor shortfalls and enhancing all current required mission areas, while simultaneously contributing to the emerging TAMD mission requirements.

This P.E. was utilized for AHE (Radar Modernization Program (RMP)) pre-System Development and Demonstration (Pre-SD&D) in FY 2003, followed by SD&D beginning in 4th quarter FY 2003. The program ramps up in FY 2004 and FY 2005 to support a Preliminary Design Review (PDR) in 1st Qtr FY 2005 and a Critical Design Review (CDR) in 1st Qtr FY 2006. The program continues growth in FY 2005 to FY 2006 to support Critical Design Review (CDR) and SDD production. The program plan begins E-2 AHE Pilot Production in FY 2007 (long lead on four aircraft), the production phase with a Low-Rate Initial Production (LRIP) Milestone C decision in FY 2009, and achieves Initial Operational Capability (IOC) in FY 2011.

UNCLASSIFIED

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604234N, E-2 Advanced Hawkeye				PROJECT NUMBER AND NAME 3051, E-2 Advanced Hawkeye			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	328.121	590.592	629.682	558.415	748.607	333.859	158.551	99.982
RDT&E Articles Qty				2 [*]	4			

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Advanced Hawkeye (AHE) will replace the existing E-2C fleet. The AHE program develops, demonstrates, tests, and procures the replacement of the AN/APS-145 radar system and other aircraft system components that modernize the E-2C weapon system to maintain open ocean mission capability while providing the United States Navy (USN) with an effective littoral surveillance and Theater Air and Missile Defense (TAMD) capability. Key radar technologies are Space-Time Adaptive Processing (STAP), Electronically Scanning Array (ESA), solid state transmitter, high dynamic range digital receivers and Identification Friend or Foe (IFF)/radar aperture integration. The resultant detection system will provide a substantially improved overland performance by correcting current sensor shortfalls and enhancing all current required mission areas, while simultaneously contributing to the emerging TAMD mission requirements.

The AHE program also upgrades or replaces aircraft system components that are either obsolete or becoming unsupportable, upgrades or replaces other aircraft systems as required to support the radar upgrade, and improves the producibility of the weapons system. The impact of the dominant battlefield awareness provided by this improved airborne early warning system will substantially contribute to the development of a single integrated air picture.

This P.E. was utilized for AHE (Radar Modernization Program (RMP)) pre-System Development and Demonstration (Pre-SD&D) in FY 2003, followed by SD&D beginning in 4th quarter FY 2003. The program ramps up in FY 2004 and FY 2005 to support a Preliminary Design Review (PDR) in 1st Qtr FY 2005 and a Critical Design Review (CDR) in 1st Qtr FY 2006. The program continues growth in FY 2005 to FY 2006 to support Critical Design Review (CDR) and SDD production. The program plan begins E-2 AHE Pilot Production in FY 2007 (long lead on four aircraft), the production phase with a Low-Rate Initial Production (LRIP) Milestone C decision in FY 2009, and achieves Initial Operational Capability (IOC) in FY 2011.

*Two Multi-Year Procurement E-2C aircraft will be modified to provide RDT&E assets for the AHE program.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604234N, E-2 Advanced Hawkeye	PROJECT NUMBER AND NAME 3051, E-2 Advanced Hawkeye																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%; text-align: center;">FY 04</td> <td style="width: 15%; text-align: center;">FY 05</td> <td style="width: 15%; text-align: center;">FY 06</td> <td style="width: 15%; text-align: center;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">287.776</td> <td style="text-align: center;">562.949</td> <td style="text-align: center;">590.618</td> <td style="text-align: center;">399.871</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td style="text-align: center;">2</td> </tr> </table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	287.776	562.949	590.618	399.871	RDT&E Articles Quantity				2
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	287.776	562.949	590.618	399.871															
RDT&E Articles Quantity				2															
<div style="border: 1px solid black; padding: 5px;"> System Development and Demonstration (SD&D) Awarded SD&D Contract with Northrop Grumman Corporation. Entered into SD&D for E-2 AHE program; conducted engineering and development efforts in preparation for Preliminary Design Review for the AHE weapons system. Continue SD&D effort. Conduct engineering and development efforts in preparation for Critical Design Reviews. </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%; text-align: center;">FY 04</td> <td style="width: 15%; text-align: center;">FY 05</td> <td style="width: 15%; text-align: center;">FY 06</td> <td style="width: 15%; text-align: center;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td></td> <td style="text-align: center;">4.109</td> <td style="text-align: center;">1.186</td> <td style="text-align: center;">1.207</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost		4.109	1.186	1.207	RDT&E Articles Quantity				
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RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 80px;"> Fund Government Furnished Equipment </div>																			
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RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> NAWCAD Support Fund Government Engineering and Contractor Engineering Support. Perform Government oversight. Perform engineering and loads analysis, design, preparation, installation and ground test calibration of instrumentation and for A-123 Loads Test. Execute test program risk reduction efforts. Fund ramp up for the Software Functional Review/Preliminary Design Review/Critical Design Review. Development and creation of the wind tunnel test model and preparation for the wind tunnel testing to include the rehost of the simulation data, and design and develop a digital engine control system for obsolescence, weight reduction, and performance improvements. </div>																			

R-1 SHOPPING LIST - Item No.

92

UNCLASSIFIED

Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 3 of 12)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604234N, E-2 Advanced Hawkeye	PROJECT NUMBER AND NAME 3051, E-2 Advanced Hawkeye																	
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Accomplishments/Effort/Subtotal Cost	6.950																		
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<div style="border: 1px solid black; padding: 5px; min-height: 60px;">NC-130H Provided support for the NC-130H engineering risk reduction efforts. Funded Classified Development efforts. Funded NC-130H AHE Advanced Development Model (ADM) system flight test and test analysis.</div>																			
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Accomplishments/Effort/Subtotal Cost			9.810	107.910															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 60px;">Fund Weapons System Trainers (WST), Operational Flight Trainers (OFT) and Simulated Maintenance Trainers (SMT).</div>																			
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UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																												
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<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"></th> <th style="text-align: right;">FY 2004</th> <th style="text-align: right;">FY 2005</th> <th style="text-align: right;">FY 2006</th> <th style="text-align: right;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Previous President's Budget:</td> <td style="text-align: right;">343.306</td> <td style="text-align: right;">597.015</td> <td style="text-align: right;">609.197</td> <td style="text-align: right;">526.927</td> </tr> <tr> <td>Current BES/President's Budget</td> <td style="text-align: right;">328.121</td> <td style="text-align: right;">590.592</td> <td style="text-align: right;">629.682</td> <td style="text-align: right;">558.415</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-15.185</td> <td style="text-align: right; border-top: 1px solid black;">-6.423</td> <td style="text-align: right; border-top: 1px solid black;">20.485</td> <td style="text-align: right; border-top: 1px solid black;">31.488</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional program reductions</td> <td></td> <td style="text-align: right;">-5.669</td> <td></td> <td></td> </tr> <tr> <td> Congressional undistributed reductions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> SBIR/STTR Transfer</td> <td style="text-align: right;">-8.117</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Other Adjustments</td> <td></td> <td style="text-align: right;">-0.754</td> <td style="text-align: right;">12.751</td> <td style="text-align: right;">22.839</td> </tr> <tr> <td> Economic Assumptions</td> <td style="text-align: right;">-0.319</td> <td></td> <td style="text-align: right;">7.734</td> <td style="text-align: right;">8.649</td> </tr> <tr> <td> Reprogrammings</td> <td style="text-align: right;">-6.749</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional increases</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Subtotal</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-15.185</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-6.423</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">20.485</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">31.488</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule: Not Applicable.</p> <p style="margin-top: 20px;">Technical: Technical approach was approved in Acquisition Strategy on 21 March 2003.</p>						FY 2004	FY 2005	FY 2006	FY 2007	Funding:					Previous President's Budget:	343.306	597.015	609.197	526.927	Current BES/President's Budget	328.121	590.592	629.682	558.415	Total Adjustments	-15.185	-6.423	20.485	31.488	Summary of Adjustments					Congressional program reductions		-5.669			Congressional undistributed reductions					Congressional rescissions					SBIR/STTR Transfer	-8.117				Other Adjustments		-0.754	12.751	22.839	Economic Assumptions	-0.319		7.734	8.649	Reprogrammings	-6.749				Congressional increases					Subtotal	-15.185	-6.423	20.485	31.488
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R-1 SHOPPING LIST - Item No. 92

UNCLASSIFIED

Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 5 of 12)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N / BA-5	0604234N, E-2 Advanced Hawkeye	3051, E-2 Advanced Hawkeye		

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
APN-1/E-2C (LI# 14 & 15)					76.072	711.284	769.171	787.332	9348.760	11692.619
APN-6/E-2C (LI# 57)						21.159	11.809	18.971	136.555	188.494

APN Funding prior to FY08 is related to P.E. 0204152N, P.U. 0463, E-2C Improvements.

Related RDT&E
(U) 0603658N (Ship Self Defense, CEC)

E. ACQUISITION STRATEGY:

Acquisition Strategy was signed by the MDA, USD (AT&L) on 21 March 2003. Milestone B approval to proceed with System Development and Demonstration was given 6 June 2003 by the Defense Acquisition Board (DAB).

R-1 SHOPPING LIST - Item No. 92

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604234N, E-2 Advanced Hawkeye			3051, E-2 Advanced Hawkeye						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Dev (Pre-SD&D)	SS/CPFF	CLASSIFIED	15.694								15.694	15.694
Ancillary Hardware Development												
Aircraft Integration												
Ship Integration												
Ship Suitability												
Systems Engineering (Pre-SD&D)	SS/CPFF	NGC, NY	120.043								120.043	120.043
Trainer Development/Trainer	TBD	TBD				9.810	02/06	107.910	02/07	126.295	244.015	244.015
Licenses												
Tooling												
GFE	SS/CPFF	VARIOUS		4.109	10/04	1.186	10/05	1.207	10/06	0.428	6.930	6.930
Primary Hardware Dev (SD&D)	SS/CPAF	NGC, NY	302.440	549.625	10/04	561.726	10/05	381.026	10/06	950.349	2,745.166	2,745.166
Contractor Engineering Support	CPFF	TBD	0.671								0.671	0.671
Primary Hardware Dev - Engines	SS/CPFF	TBD	2.019								2.019	2.019
Award Fees	SS/CPFF	TBD	8.589	11.140	10/04	28.892	10/05	18.845	10/06	70.878	138.344	138.344
Subtotal Product Development			449.456	564.874		601.614		508.988		1,147.950	3,272.882	

Remarks:

Successful DAB to enter SD&D completed 6 June 03, ADM and APBA approved 13 June 03.

R-1 SHOPPING LIST - Item No. 92

UNCLASSIFIED

Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 7 of 12)

UNCLASSIFIED

Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 8 of 12)

R-1 SHOPPING LIST - Item No. 92

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE, N / BA-5			0604234N, E-2 Advanced Hawkeye			3051, E-2 Advanced Hawkeye						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR/WX	NAWCAD, Pax River MD	8.463	3.182	11/04	5.737	11/05	12.574	11/06	98.809	128.765	
Developmental T&E	Various	Various	0.357								0.357	
Developmental T&E	MIPR	Edwards AFB, CA	2.112								2.112	
GFE												
Award Fees												
Subtotal T&E			10.932	3.182		5.737		12.574		98.809	131.234	
Remarks:												
Contractor Engineering Support	Various	Various	3.468								3.468	
Government Engineering Support	Various	Various	25.526								25.526	
Program Management Support	WX/RX	NAWCAD, Pax River, MD	6.423	3.438	11/04	7.816	11/05	12.951	11/06	50.704	81.332	
Travel	WX/RX	NAWCAD, Pax River, MD	0.514	0.143	11/04	0.326	11/05	0.540	11/06	2.113	3.636	
Management Support		Classified	1.785								1.785	
Subtotal Management			37.716	3.581		8.142		13.491		52.817	115.747	
Remarks:												
Total Cost			509.217	590.592		629.682		558.415		1,398.485	3,686.391	
Remarks:												

R-1 SHOPPING LIST - Item No. 92

UNCLASSIFIED

Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 9 of 12)

UNCLASSIFIED

* DT/DT Assist in FY05/FY06 and 1Q-2Q of FY07 includes NC-130/A-123/lab integration dedicated for weapon system development and air vehicle testing.

Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 10 of 12)

UNCLASSIFIED

CLASSIFICATION:

[illegible]

R-1 SHOPPING LIST - Item No.

92

UNCLASSIFIED

Exhibit R-2, RD TEN Budget Item Justification

(Exhibit R-2, page 11 of 12)

UNCLASSIFIED

Termination Liability Funding
For Major Defense Acquisition Programs,
RDT&E Funding
(\$000)

Program	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
0604234N, E-2 Advanced Hawkeye	0	0	0	0	0	0	0	0

This program does not budget/fund termination liability separately. A Limitation of Funds (LoF) clause (FAR 52.232-22) is inserted in all incrementally funded R&D contracts. This clause is designed to limit the government's legal liability to the amount obligated.

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					R-1 ITEM NOMENCLATURE 0604245N USMC H-1 Upgrades			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	98.412	173.046	42.012	7.700	3.620	3.680	3.815	3.94
2279 USMC H-1 Upgrades	98.412	173.046	42.012	7.700	3.620	3.680	3.815	3.94

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The mission of the AH-1W attack helicopter is to provide rotary wing close air support, anti-armor, armed escort, armed/visual reconnaissance and fire support coordination capabilities under day/night and adverse weather conditions. The mission of the UH-1N utility helicopter is to provide command and control and combat assault support under day/night and adverse weather conditions and special operations support; supporting arms coordination and aeromedical evacuation. Major modifications for both aircraft that remanufacture AH-1W/UH-1N's into AH-1Z/UH-1Y's include: a new 4-bladed, composite rotor system with semi-automatic blade-fold, new performance matched transmissions, T700 Engine Digital Electronic Control Units (DECUs), new 4-bladed tail rotors and drive systems, more effective stabilizers, upgraded landing gear, tail pylon structural modifications, and common, fully integrated cockpits and avionics systems. This remanufacture will add 10,000 flight hours to AH-1Z/UH-1Y airframes. The fully integrated cockpits will reduce operator workload and improve situational awareness, thus increasing safety and reducing the rate of aircraft attrition. They will provide considerable growth potential for future weapon systems and avionics, which will significantly increase mission effectiveness and survivability. The cockpits will also include integration of onboard mission planning, communications, digital fire control, self-navigation, night navigation/targeting, and weapon systems management in nearly identical crew stations, which significantly reduces training requirements. This remanufacture maximizes commonality between the two aircraft and provides needed improvements in crew and passenger survivability, payload, power available, endurance, range, airspeed, maneuverability and supportability.

Note: FY2005 column of the FY2006 President's Budget for RDT&E reflects the addition of a proposed \$42M Prior Approval Reprogramming (DD1415-1).

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604245N USMC H-1 Upgrades			PROJECT NUMBER AND NAME 2279 USMC H-1 Upgrades			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	98.412	173.046	42.012	7.700	3.620	3.680	3.815	3.940
RDT&E Articles Qty								
<p>A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The mission of the AH-1W attack helicopter is to provide rotary wing close air support, anti-armor, armed escort, armed/visual reconnaissance and fire support coordination capabilities under day/night and adverse weather conditions. The mission of the UH-1N utility helicopter is to provide command and control and combat assault support under day/night and adverse weather conditions and special operations support; supporting arms coordination and aeromedical evacuation. Major modifications for both aircraft that remanufacture AH-1W/UH-1N's into AH-1Z/UH-1Y's include: a new 4-bladed, composite rotor system with semi-automatic blade fold, new performance matched transmissions, T700 Engine Digital Electronic Control Units (DECUs), new 4-bladed tail rotors and drive systems, more effective stabilizers, upgraded landing gear, tail pylon structural modifications, and common, fully integrated cockpits and avionics systems. This remanufacture will add 10,000 flight hours to AH-1Z/UH-1Y airframes. The fully integrated cockpits will reduce operator workload and improve situational awareness, thus increasing safety and reducing the rate of aircraft attrition. They will provide considerable growth potential for future weapon systems and avionics, which will significantly increase mission effectiveness and survivability. The cockpits will also include integration of onboard mission planning, communications, digital fire control, self-navigation, night navigation/targeting, and weapon systems management in nearly identical crew stations, which significantly reduces training requirements. This remanufacture maximizes commonality between the two aircraft and provides needed improvements in crew and passenger survivability, payload, power available, endurance, range, airspeed, maneuverability and supportability.</p> <p>Note: FY2005 column of the FY2006 President's Budget for RDT&E reflects the addition of a proposed \$42M Prior Approval Reprogramming (DD1415-1).</p>								

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604245N USMC H-1 Upgrades	PROJECT NUMBER AND NAME 2279 USMC H-1 Upgrades		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY07
Technical design & development	74.265	124.045	29.000	2.240
RDT&E Articles Quantity				
Conduct pre-flight ground test and first flight of UH-1Y. Continue tooling validation and assembly of remaining EMD aircraft including structural test. Conduct envelope expansion and complete electrical demonstration. Continue development of integrated software. Conduct Software development efforts to support development testing and address operational testing results.				
	FY 04	FY 05	FY 06	FY07
Program development testing	16.012	23.681	2.500	
RDT&E Articles Quantity				
Program developmental testing includes: live fire test & evaluation, non-firing loads and vibrations, IAS validation and weapons check, structural demonstration, Operational Test Readiness Review (OTRR), firing loads and vibrations, sea trials, IAS validation, weapons check, weapons system accuracy, and EMI testing.				
	FY 04	FY 05	FY 06	FY07
Training and Logistics Support	2.382	5.446		
RDT&E Articles Quantity				
Various field activities will perform level of repair analysis, logistics support analysis, reliability centered maintenance analysis, configuration management, and integrated mechanical diagnostics.				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604245N USMC H-1 Upgrades	PROJECT NUMBER AND NAME 2279 USMC H-1 Upgrades																	
B. Accomplishments/Planned Program (Cont.)																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY07</th></tr></thead><tbody><tr><td>Software Support</td><td style="text-align: center;">2.800</td><td style="text-align: center;">10.337</td><td style="text-align: center;">5.100</td><td style="text-align: center;">5.190</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">Conduct Software development efforts to support development testing and address operational testing results. FY07 is to conduct development support efforts.</div>						FY 04	FY 05	FY 06	FY07	Software Support	2.800	10.337	5.100	5.190	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY07															
Software Support	2.800	10.337	5.100	5.190															
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	FY 04	FY 05	FY 06	FY07															
Component Fatigue Testing	1.387	7.977	4.000	0.000															
RDT&E Articles Quantity																			
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	FY 04	FY 05	FY 06	FY07															
Contractor Technical Support	1.566	1.560	1.412	0.270															
RDT&E Articles Quantity																			

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2, page 4 of 10)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																												
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604245N USMC H-1 Upgrades	PROJECT NUMBER AND NAME 2279 USMC H-1 Upgrades																																																																													
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;"></th> <th style="text-align: right; width: 15%;">FY 2004</th> <th style="text-align: right; width: 15%;">FY 2005</th> <th style="text-align: right; width: 15%;">FY 2006</th> <th style="text-align: right; width: 15%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Previous President's Budget:</td> <td style="text-align: right;">90.965</td> <td style="text-align: right;">90.389</td> <td style="text-align: right;">10.907</td> <td style="text-align: right;">7.723</td> </tr> <tr> <td>Current BES/President's Budget</td> <td style="text-align: right;">98.412</td> <td style="text-align: right;">173.046</td> <td style="text-align: right;">42.012</td> <td style="text-align: right;">7.700</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">7.447</td> <td style="text-align: right; border-top: 1px solid black;">82.657</td> <td style="text-align: right; border-top: 1px solid black;">31.105</td> <td style="text-align: right; border-top: 1px solid black;">-0.023</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional program reductions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional undistributed reductions</td> <td></td> <td style="text-align: right;">-1.273</td> <td></td> <td></td> </tr> <tr> <td> Congressional rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> SBIR/STTR Transfer</td> <td style="text-align: right;">-1.621</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Other Adjustments</td> <td></td> <td style="text-align: right;">-0.070</td> <td style="text-align: right;">31.012</td> <td style="text-align: right;">-0.190</td> </tr> <tr> <td> Economic Assumptions</td> <td></td> <td></td> <td style="text-align: right;">0.093</td> <td style="text-align: right;">0.167</td> </tr> <tr> <td> Reprogrammings</td> <td style="text-align: right;">9.068</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional increases</td> <td></td> <td style="text-align: right;">84.000</td> <td></td> <td></td> </tr> <tr> <td> Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">7.447</td> <td style="text-align: right; border-top: 1px solid black;">82.657</td> <td style="text-align: right; border-top: 1px solid black;">31.105</td> <td style="text-align: right; border-top: 1px solid black;">-0.023</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule:</p> <p style="margin-top: 20px; padding-left: 40px;">Additional effort has been integrated into the remaining EMD schedule due to technical issues with tailboom annealing, rocket gas ingestion and weapons system integration which defers a MS III decision for Full Rate Production to 4QFY06 and adds a 3rd Lot of LRIP</p> <p style="margin-top: 20px;">Technical:</p> <p style="margin-left: 40px;">Not Applicable</p>						FY 2004	FY 2005	FY 2006	FY 2007	Funding:					Previous President's Budget:	90.965	90.389	10.907	7.723	Current BES/President's Budget	98.412	173.046	42.012	7.700	Total Adjustments	7.447	82.657	31.105	-0.023	Summary of Adjustments					Congressional program reductions					Congressional undistributed reductions		-1.273			Congressional rescissions					SBIR/STTR Transfer	-1.621				Other Adjustments		-0.070	31.012	-0.190	Economic Assumptions			0.093	0.167	Reprogrammings	9.068				Congressional increases		84.000			Subtotal	7.447	82.657	31.105	-0.023
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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2, page 5 of 10)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604245N USMC H-1 Upgrades			PROJECT NUMBER AND NAME 2279 USMC H-1 Upgrades				

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
P-1 LI #9, UH-1Y/AH-1Z (4BN/4BW)	308.562	198.858	307.479	434.942	471.633	443.578	482.196	501.74	TBD	TBD
Quantity	9	7	10	18	21	21	22	23	149	280

E. ACQUISITION STRATEGY:

The USMC H-1 Upgrades is an ACAT 1D program which encompasses Engineering and Manufacturing Development of new end-items prior to a production approval decision. The prime contract is a sole source to Bell Helicopter Textron, Inc.

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2, page 6 of 10)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604245N USMC H-1 Upgrades			PROJECT NUMBER AND NAME 2279 USMC H-1 Upgrades						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY06 Cost	FY06 Award Date	FY 07 Cost	FY07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	SS CPFF	Bell Helicopter, Ft. Worth, TX	902.341	124.045	10/04	29.000	11/05			0.000	1,055.386	1,055.386
Anciliary Hdw Development											0.000	
Training Development	WR	Various	6.212							0.000	6.212	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	WR	Various	66.022	5.270	Various					0.000	71.292	
Licenses											0.000	
Tooling											0.000	
GFE	Various	Various	21.050	2.648	10/04					0.000	23.698	
Award Fees*	WR	Bell Helicopter, Ft. Worth, TX	12.668							0.000	12.668	12.668
Subtotal Product Development			1,008.293	131.963		29.000		0.000		0.000	1,169.256	
<p>*Remarks: Effective 1 May 00, cost plus incentive fee (CPIF) applies. Original contract was was a SS CPAF contract. Total award fee pool \$47,496,152, and to date \$12,668,250 has been awarded. Period #1 was 90%, period #2 87%, period #3 90%, period #4 77%, period #5 76%, and period #6 was 0%. Award fee activity was terminated on 30 April 2000.</p>												
Development Support	Various	Various	1.387	7.977	11/04	4.000	11/05	4.252	10/06	8.043	25.659	
Software Dev. Electronics											0.000	
Software Dev. Weapons Integration	Various	Various	2.800	5.067	11/04	5.100	11/05	3.178	10/06	6.112	22.257	
Integrated Logistics Support	Various	Various	23.383	2.798	11/04						26.181	
Configuration Management	Various	Various	0.957								0.957	
Technical Data											0.000	
Studies & Analysis											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			28.527	15.842		9.100		7.430		14.155	75.054	
<p>Remarks:</p>												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604245N USMC H-1 Upgrades			2279 USMC H-1 Upgrades						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	NAWC Patuxent River	35.252	16.881	11/04	2.500	11/05				54.633	
Operational Test & Evaluation	Various	NAWC Patuxent River	2.406	5.147	11/04						7.553	
Live Fire Test & Evaluation	Various	NAWC China Lake		1.653	10/04						1.653	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			37.658	23.681		2.500		0.000		0.000	63.839	
Remarks:												
Contractor Engineering Support	C FFP	Various	4.670	0.745	11/04	0.571	11/05				5.986	5.986
Government Engineering Support											0.000	
Program Management Support	C FFP	Various	5.767	0.545	11/04	0.571	11/05				6.883	6.883
Travel	WR	Various	2.117	0.270	11/04	0.270	11/05	0.270	11/06	0.900	3.827	
Transportation											0.000	
Subtotal Management			12.554	1.560		1.412		0.270		0.900	16.696	
Remarks:												
Total Cost			1,087.032	173.046		42.012		7.700		15.055	1,324.845	
Remarks:												

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2, page 8 of 10)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE: February 2005								
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME								
RDT&E, N / BA-5												0604245N USMC H-1 Upgrades												2279 USMC H-1 Upgrades								
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones												MS-III △						IOC UH1 ★										IOC AH1Z ★				
Test & Evaluation Milestones																																
Development Test	DT																															
Operational Test			OT-IIB									OT-IIC OPEVAL																				
Production Milestones																																
LRIP I FY 04	△	LRIP I Start																														
LRIP II FY 05					△	LRIP II Start																										
LRIP III FY05										△	LRIP III Start (Lot 3 / QTY 10)																					
FRP FY 06																																
FRP FY 07																																
FRP FY 08																																
FRP FY 09																																
FRP FY 10																																
FRP FY 11																																
Deliveries												LRIP 1 (9)					LRIP II (7)											FRP (18) (Lot 4)				
																								</								

Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2, page 9 of 10)

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
						February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604245N USMC H-1 Upgrades			PROJECT NUMBER AND NAME 2279 USMC H-1 Upgrades		
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Full Rate Production (FRP) Decision Milestone III			4Q					
IOC-UH1Y								
IOC-AH1Z								
Developmental Testing (DT)	1Q-4Q	1Q-4Q						
Operational Testing (OT-IIB)	3Q							
Operational Evaluation (OT-IIC) (OPEVAL)		4Q	1Q					
Start Low-Rate Initial Production I (LRIP I)	1Q							
Low-Rate Initial Production I Delivery			2Q - 4Q	1Q-2Q				
Start Low-Rate Initial Production II (LRIP II)		2Q						
Low-Rate Initial Production II Delivery				2Q-4Q				
Start Low-Rate Initial Production III (LRIP III)			2Q					
Low-Rate Initial Production III Delivery								
Full Rate Production Start (FRP) (Lot 4)				2Q				
Full Rate Production (FRP) Delivery (Lot 4)								
Full Rate Production Start (FRP) (Lot 5)								
Full Rate Production (FRP) Delivery (Lot 5)								
Full Rate Production Start (FRP) (Lot 6)								
Full Rate Production Start (FRP) (Lot 7)								
Full Rate Production Start (FRP) (Lot 8)								

This schedule reflects a change to the program baseline including a pending \$42M FY05 prior approval reprogramming action. A PDR and APB have been submitted by the Program Office and are pending approval by the MDA.

This RDT&E budget reflects a pending \$42M FY05 prior approval reprogramming action.

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EXHIBIT R-2, RDT&E Budget Item Justification							DATE:	
							February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-05					R-1 ITEM NOMENCLATURE 0604261N Acoustic Search Sensors			
COST (\$ in Millions)	FY2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	16.706	14.590	29.522	55.099	65.562	54.391	71.842	72.791
0480 ASW SENSORS & PROCESSING *	13.343	11.781	17.323	8.207	8.484	24.387	41.275	41.724
4017 ARPDD **	3.363	2.809	12.199	46.892	57.078	30.004	30.567	31.067
<p>* FY2005 budget reflects a \$1.400 million Congressional add for Littoral Airborne Acoustic ASW Enhancements, which has been reduced by \$.056 million for Congressional Undistributed Reductions.</p> <p>** FY2004 budget reflects a \$3.500 million Congressional add for Automatic Radar Periscope Detection and Discrimination (ARPDD), which has been reduced by \$.095 million for SBIR and \$.003 million for Navy Misc. Adjustments.</p> <p>(U) (0480) – The ASW Sensors and Processing project provides the tools and methods necessary to maintain maritime superiority by preventing hostile submarines from disrupting the US Navy's ability to maintain naval superiority, control the sea lines of communication, and carry out their missions. This project encompasses the System Development and Demonstration (SDD) of sensor systems to improve the mission effectiveness of airborne Anti-Submarine Warfare (ASW) cueing, search, localization, and attack. Smaller and quieter threat submarines drive the requirement for continued advancement in ASW sensor capabilities for both blue water and littoral environments. The littoral regions of the world create an additional ASW challenge to defeat the increase in background clutter caused by the shallow water depth, high volume of shipping, and commercial radio frequency interference. Project 0480 provides funding for the engineering development of solutions that acquire, confirm, and attack threat submarines. Efforts being funded during the period identified are the Extended Echo Ranging (EER) family of multi-static active sensor systems and the Advanced Processing Build (APB) programs. Multi-static ASW (MSA) sensor systems provides improved threat target detection capabilities for water littoral environments. The development efforts funded during the period identified include the Improved Extended Echo Ranging (IEER) multi-static search receiver sensor for active large area ASW search; the Advanced Extended Echo Ranging (AEER) active coherent (electronic) sound source, a new start in FY09, which provides a search and localization capability in all water environments and will eliminate current impulsive source safety, training and Rules of Engagement restrictions; and Advanced Processing Builds which provide signal processing improvements to achieve increased target detection and classification capabilities. A technology adjuncts to these programs include Sonobuoy Precise Positioning.</p> <p>(U) (4017) - The Automatic Radar Periscope Detection and Discrimination (ARPDD) Project provides a fully automated periscope detection, classification, and tracking capability to reliably detect periscopes and masts, and reliably discriminate periscopes from clutter and confusion targets. This capability is suitable for air and surface platforms. This project funds only the airborne application.</p>								

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05	PROGRAM ELEMENT NUMBER AND NAME 0604261N Acoustic Search Sensors				PROJECT NUMBER AND NAME 0480 ASW Sensors and Processing			
COST (\$ in Millions)	FY2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
0480 ASW Sensors and Processing *	13.343	11.781	17.323	8.207	8.484	24.387	41.275	41.724
RDT&E Articles Quantity					300	300		

* FY2005 budget reflects a \$1.400 million Congressional add for Littoral Airborne Acoustic ASW Enhancements, which has been reduced by \$.056 million for Congressional Undistributed Reductions.

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The ASW Sensors and Processing project provides the tools and methods necessary to maintain maritime superiority by preventing hostile submarines from disrupting the US Navy's ability to maintain naval superiority, control the sea lines of communication, and carry out their missions. This project encompasses the System Development and Demonstration (SDD) of sensor systems to improve the mission effectiveness of airborne Anti-Submarine Warfare (ASW) cueing, search, localization, and attack. Smaller and quieter threat submarines drive the requirement for continued advancement in ASW sensor capabilities for both blue water and littoral environments. The littoral regions of the world create an additional ASW challenge to defeat the increase in background clutter caused by the shallow water depth, high volume of shipping, and commercial radio frequency interference. Project 0480 provides funding for the engineering development of solutions that acquire, confirm, and attack threat submarines. Efforts being funded during the period identified are the Extended Echo Ranging (EER) family of multi-static active sensor systems and the Advanced Processing Build (APB) programs. Multi-static ASW (MSA) sensor systems provides improved threat target detection capabilities for water littoral environments. The development efforts funded during the period identified include the Improved Extended Echo Ranging (IEER) multi-static search receiver sensor for active large area ASW search; the Advanced Extended Echo Ranging (AEER) active coherent (electronic) sound source, a new start in FY09, which provides a search and localization capability in all water environments and will eliminate current impulsive source safety, training and Rules of Engagement restrictions; and Advanced Processing Builds which provide signal processing improvements to achieve increased target detection and classification capabilities. The 600 sonobuoy test articles will support software and hardware integration flight test for AEER Block I.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05	PROGRAM ELEMENT NUMBER AND NAME 0604261N Acoustic Search Sensors	PROJECT NUMBER AND NAME 0480 ASW Sensors & Processing																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">13.343</td><td style="text-align: center;">10.437</td><td style="text-align: center;">17.323</td><td style="text-align: center;">8.207</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	13.343	10.437	17.323	8.207	RDT&E Articles Quantity				
	FY04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	13.343	10.437	17.323	8.207															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; min-height: 80px; margin-top: 10px;"></div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY04</th><th style="width: 15%;">FY05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td style="text-align: center;">1.344</td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY04	FY05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost		1.344			RDT&E Articles Quantity				
	FY04	FY05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost		1.344																	
RDT&E Articles Quantity																			
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	FY04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost																			
RDT&E Articles Quantity																			
<div style="border: 1px solid black; min-height: 80px; margin-top: 10px;"></div>																			

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05	PROGRAM ELEMENT NUMBER AND NAME 0604261N Acoustic Search Sensors	PROJECT NUMBER AND NAME 0480 ASW Sensors & Processing		

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2004	FY 2005	FY 2006	FY2007
Previous President's Budget:	13.479	10.507	17.518	9.790
Current BES/ President's Budget	13.343	11.781	17.323	8.207
Total Adjustments	-0.136	1.274	-0.195	-1.583
Summary of Adjustments				
Congressional undistributed reductions		-0.107		
SBIR/STTR Transfer	-0.124			
Navy Misc. Adjustments		-0.019	-1.784	-1.726
Economic Assumptions			1.589	0.143
Reprogrammings	-0.012			
Congressional Increases		1.400		
Subtotal	-0.136	1.274	-0.195	-1.583

Schedule:

(U) Schedule: MSA Integration contract slipped from 2QTR FY04 to 3QTR FY04 due to contract negotiations. Added depiction of Advanced Processing Builds (APB) for program clarification. AEER program schedule will commence in FY09 versus FY07. Hydostatic Device R4 and R4a, deleted as FY2003 was the last year of RDT&E funding. Added schedule for the FY05 Congressional Add - Littoral Airborne Acoustic ASW Enhancement.

Technical:

N/A

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05			PROGRAM ELEMENT NUMBER AND NAME 0604261N Acoustic Search Sensors			PROJECT NUMBER AND NAME 0480 ASW Sensors & Processing				
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
(U) OPN (404800) Q110B	4.3	4.3	5.1	6.0	5.9	7.4	7.5	7.6	Continuing	Continuing
<u>(U) Related RDT&E</u> (U) P.E. 0603254N (ASW Systems Dev)										
E. ACQUISITION STRATEGY:										
The integration of Multi-Static ASW (MSA) into increased number of P-3 Aircraft can be achieved as an option under the current MSA contracts. Various alternatives of MSA implementation are also being investigated that could require Full and Open competition.										

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05			PROGRAM ELEMENT 0604261N Acoustic Search Sensors			PROJECT NUMBER AND NAME 0480 ASW Sensors & Processing						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/FFP	Sparton, FL	3.178								3.178	3.178
	C/FFP	USSI, IN	2.710								2.710	2.710
	C/CPFF	Various Contracts	1.000								1.000	1.000
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			6.888	0.000		0.000		0.000			6.888	
Remarks:												
Software Development	CPFF	Lockheed Martin, VA		0.490	02/05						0.490	0.490
Software Development (GASS)	C/CPIF	Northrop Grumman, NY	46.314								46.314	46.314
Integrated Logistics Support	C/CPFF	Misc GASS Con	12.834								12.834	12.834
Software Development (Phase I)	C/CPFF	Misc /P-3 Baseline Cont's	8.300								8.300	8.300
Software Development (Phase II)	WX	NAWCAD, Pax River, MD	1.000	2.040	11/04	2.600	10/05	2.100	10/06	Continuing	Continuing	
Technical Data	WX	NAWCAD, Pax River, MD	4.382	1.630	11/04	1.630	10/05	0.900	10/06	Continuing	Continuing	
Studies & Analyses	CPFF	Lockheed Martin, VA		0.200	02/05						0.200	0.200
Award Fees											0.000	
Subtotal Support			72.830	4.360		4.230		3.000		Continuing	Continuing	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE, N / BA-05			0604261N Acoustic Search Sensors			0480 ASW Sensors & Processing						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWCAD, Pax River, MD	3.200	0.400	11/04	0.750	11/05	0.750	11/06	Continuing	Continuing	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			3.200	0.400		0.750		0.750		Continuing	Continuing	
Remarks:												
Program Mgmt Support (Cont)	C/FFP	Various	40.085	0.710	12/04	0.700	11/05	0.700	11/06		42.195	42.195
Engineering Support (Gov)	WX	NAWCAD, Pax River, MD	54.872	4.645	11/04	7.460	10/05	2.261	10/06	Continuing	Continuing	
Program Mgmt Support (Gov)	WX	NAWCAD, Pax River, MD	7.023	0.150	11/04	0.190	10/05	0.200	10/06	Continuing	Continuing	
Engineering Support (Contract)	RX	Various	2.861	1.516	11/04	3.993	10/05	1.296	10/06	Continuing	Continuing	
Travel											0.000	
Transportation											0.000	
Subtotal Management			104.841	7.021		12.343		4.457		Continuing	Continuing	
Remarks:												
Total Cost			187.759	11.781		17.323		8.207		Continuing	Continuing	
Remarks:												

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
Multi-Static Active																								Februray 2005								
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME												
RDT&E, N / BA-05										0604261N Acoustic Search Sensors										0480 ASW Sensors & Processing												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones		MSA Integration Contract △																														
Prototype Phase																																
System Development								MSA Integration CDR △																								
EDM Delivery																																
Software Development/Integration									Start APB Development △								APB (1) S/W release △							APB (2) S/W release △								
Test & Evaluation Milestones														MSA Integration TECH EVAL △										APB (2) SQT △								
Development Test															APB (1) SQT △																	
Operational Test		Q110B FOT&E △													MSA Integration OPEVAL △																	
Production Milestones																																
LRIP I FY 05																																
LRIP II FY 06																																
FRP FY 07																																
Deliveries																																

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Exhibit R-2, RD TEN Budget Item Justification
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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
Multi-Static Active						February 2005		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME		
RDT&BA-05		0604261N Acoustic Search Sensors				0480 ASW Sensors & Processing		
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Prototype Phase								
System Design Review (SDR)								
Milestone II (MSII)								
Integration Contract	3Q							
Software Specification Review (SSR)								
Preliminary Design Review (PDR)								
System Development								
Critical Design Review (CDR)		4Q						
Quality Design and Build								
Test Readiness Review (TRR)								
Developmental Testing (DT-IIA)								
Eng Dev Model (EDM) Radar Delivery - Lab								
Software Development			2Q					
Preproduction Readiness Review (PRR)								
EDM Radar Delivery - Flt Related								
Milestone C (MS C)								
Operational Testing (OT-IIA)								
Start Low-Rate Initial Production I (LRIP I)								
Software Delivery 2XXSW					3Q		3Q	
Developmental Testing (DT-IIB1)								
Developmental Testing (DT-IIB2)								
Start Low-Rate Initial Production II								
Operational Testing (OT-IIB)								
Developmental Testing (DT-IIC)								
Functional Configuration Audit (FCA)								
Low-Rate Initial Production I Delivery								
Technical Evaluation (TECHEVAL)				2Q				
Software Qualification Test (SQT)					1Q		1Q	
Operational Evaluation (OT-IIC) (OPEVAL)	2Q			4Q				
Low-Rate Initail Production II Delivery								
IOC								
Full Rate Production (FRP) Decision								
Full Rate Production Start								
First Deployment								

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Exhibit R-2, RD TEN Budget Item Justification

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile Advanced Extended Echo Ranging (AEER)																								DATE: February 2005								
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05								PROGRAM ELEMENT NUMBER AND NAME 0604261N Acoustic Search Sensors								PROJECT NUMBER AND NAME 0480 ASW Sensors & Processing																
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones																					MS B △											
System Development Localization SL																								CDR (blk 1) △								
EDM Delivery																									H/W EDM (blk 1) △							
Software Integration																											Integration S/W Delivery (blk 1) △					
Test & Evaluation Milestones Developmental Test																										Commence S/W and H/W Integrated Fit Test (blk 1) △						
Production Milestones																																

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Note: AEER, is a spiral upgrade development effort consisting of two block builds. Block 1 is to develop and produce a Coherent Source buoy to provide a multi-static active localization system capability.

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Exhibit R-4a, Schedule Detail Advanced Extended Echo Ranging (AEER)						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&BA-05	PROGRAM ELEMENT 0604261N Acoustic Search Sensors				PROJECT NUMBER AND NAME 0480 ASW Sensors & Processing			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Prototype Phase								
System Design Review (SDR)								
Milestone B (MS B)						2Q		
Integration Contract								
Software Specification Review (SSR)								
Preliminary Design Review (PDR)								
System Development								
Critical Design Review (CDR) Block 1							1Q	
Quality Design and Build								
Test Readiness Review (TRR)								
Developmental Testing (DT-IIA)								
Eng Dev Model (EDM) Block 1							2Q	
Software Intergration								
Preproduction Readiness Review (PRR)								
EDM Radar Delivery - Flt Related								
Milestone C (MS C) Block 1								
Operational Testing (OT-IIA)								
Start Low-Rate Initial Production I (LRIP I) Block 1								
Integration Software Delivery Block 1							4Q	
Developmental Testing (DT-IIB) Block 1								1Q
Developmental Testing (DT-IIB2)								
Start Low-Rate Initial Production II								
Operational Testing (OT-IIB)								
Developmental Testing (DT-IIC)								
Functional Configuration Audit (FCA)								
Low-Rate Initial Production I Delivery								
Technical Evaluation (TECHEVAL)								
Physical Configuration Audit								
Operational Evaluation (OT-IIC) (OPEVAL) Block 1								
Low-Rate Initail Production II Delivery								
IOC								
Full Rate Production (FRP) Decision Block 1								
Full Rate Production Start Block 1								
First Deployment								

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Exhibit R-2, RDTEN Budget Item Justification

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
Littoral Airborne Acoustic ASW Enhancements																								February 2005								
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME									PROJECT NUMBER AND NAME														
RDT&E, N / BA-05									0604261N Acoustic Search Sensors									0480 ASW Sensors & Processing														
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones																																
Prototype Phase																																
System Development																																
Software 1XX S/W Delivery 2XX S/W Delivery																																
Test & Evaluation Milestones																																
Demonstration																																
Production Milestones																																

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Exhibit R-2, RDTEN Budget Item Justification
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CLASSIFICATION:

Exhibit R-4a, Schedule Detail Littoral Airborne Acoustic ASW Enhancements						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&BA-05		PROGRAM ELEMENT 0604261N Acoustic Search Sensors				PROJECT NUMBER AND NAME 0480 ASW Sensors & Processing		
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Prototype Phase		2Q-3Q						
System Design Review (SDR)								
Milestone B (MS B)								
Integration Contract								
Software Specification Review (SSR)								
Preliminary Design Review (PDR)								
System Development		2Q-4Q						
Critical Design Review (CDR) Block 1								
Quality Design and Build								
Test Readiness Review (TRR)								
Developmental Testing (DT-IIA)								
Eng Dev Model (EDM) Block 1								
Software Intergration								
Preproduction Readiness Review (PRR)								
EDM Radar Delivery - Flt Related								
Milestone C (MS C) Block 1								
Operational Testing (OT-IIA)								
Start Low-Rate Initial Production I (LRIP I) Block 1								
Software Delivery 1XX		3Q						
Software Delivery 2XX		4Q						
Developmental Testing (DT-IIB2)								
Start Low-Rate Initial Production II								
Operational Testing (OT-IIB)								
Demonstration		4Q						
Functional Configuration Audit (FCA)								
Low-Rate Initial Production I Delivery								
Technical Evaluation (TECHEVAL)								
Physical Configuration Audit								
Operational Evaluation (OT-IIC) (OPEVAL) Block 1								
Low-Rate Initail Production II Delivery								
IOC								
Full Rate Production (FRP) Decision Block 1								
Full Rate Production Start Block 1								
First Deployment								

R-1 SHOPPING LIST - Item No.

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Exhibit R-2, RDTEN Budget Item Justification

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05		PROGRAM ELEMENT NUMBER AND NAME 0604261N Acoustic Search Sensors			PROJECT NUMBER AND NAME 4017 ARPDD			
COST (\$ in Millions)	FY2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
4017 ARPDD	3.363	2.809	12.199	46.892	57.078	30.004	30.567	31.067
RDT&E Articles Quantity							2	2
FY2004 budget reflects a \$3.500 million Congressional add for Automatic Radar Periscope Detection and Discrimination (ARPDD), which has been reduced by \$.095 million for SBIR and \$.003 million for Navy Misc. Adjustments.								
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Automatic Radar Periscope Detection and Discrimination (ARPDD) Project provides a fully automated periscope detection, classification, and tracking capability to reliably detect periscopes and masts, and reliably discriminate periscopes from clutter and confusion targets. This capability is suitable for air and surface platforms. This project funds only the airborne application. This capability is essential for effective detection of submarines in congested Littoral areas. This funding is for engineering development of the ARPDD system. The output will be a productionized form, fit, function incorporation of ARPDD into the AN/APS-137 radar. Two engineering development models for systems and integration testing and four test article prototypes for environmental, reliability, development and operational testing will be provided. Full testing will be performed to support the production approval milestone (milestone C).								

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Exhibit R-2, RD TEN Budget Item Justification
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05	PROGRAM ELEMENT NUMBER AND NAME 0604261N Acoustic Search Sensors	PROJECT NUMBER AND NAME 4017 ARPDD																	
B. Accomplishments/Planned Program																			
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RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 60px;">ARPDD is a follow-on to a Science and Technology program previously funded by the Office of Naval Research in PE060374N. FY04 Congressional plus up was issued to accelerate the ARPDD program for more rapid introduction of the technology to the Fleet. FY05 funding is being used for project planning, acquisition documentation preparation, performing technical trade-off studies, developing specifications, and a Statement of Work in preparation for awarding a contract for development of an airborne ARPDD capability. FY06 funding will be used to award a development contract for ARPDD SDD and associated government support. FY07 will continue support for ARPDD development.</div>																			
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RDT&E Articles Quantity																			
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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																			
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-05	PROGRAM ELEMENT NUMBER AND NAME 0604261N Acoustic Search Sensors	PROJECT NUMBER AND NAME 4017 ARPDD																																																				
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 35%;">Funding:</th> <th style="text-align: right; width: 15%;">FY 2004</th> <th style="text-align: right; width: 15%;">FY 2005</th> <th style="text-align: right; width: 15%;">FY 2006</th> <th style="text-align: right; width: 15%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>Previous President's Budget:</td> <td style="text-align: right;">3.461</td> <td style="text-align: right;">2.856</td> <td style="text-align: right;">11.669</td> <td style="text-align: right;">46.526</td> </tr> <tr> <td>Current BES/ President's Budget</td> <td style="text-align: right;">3.363</td> <td style="text-align: right;">2.809</td> <td style="text-align: right;">12.199</td> <td style="text-align: right;">46.892</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-0.098</td> <td style="text-align: right; border-top: 1px solid black;">-0.047</td> <td style="text-align: right; border-top: 1px solid black;">0.530</td> <td style="text-align: right; border-top: 1px solid black;">0.366</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional undistributed reductions</td> <td></td> <td style="text-align: right;">-0.034</td> <td></td> <td></td> </tr> <tr> <td> SBIR/STTR Transfer</td> <td style="text-align: right;">-0.095</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Miscellaneous Adjustments</td> <td></td> <td style="text-align: right;">-0.013</td> <td style="text-align: right;">-0.074</td> <td style="text-align: right;">-0.269</td> </tr> <tr> <td> Economic Assumptions</td> <td style="text-align: right;">-0.003</td> <td></td> <td style="text-align: right;">0.604</td> <td style="text-align: right;">0.635</td> </tr> <tr> <td> Subtotal</td> <td style="text-align: right;">-0.098</td> <td style="text-align: right;">-0.047</td> <td style="text-align: right;">0.530</td> <td style="text-align: right;">0.366</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule:</p> <p style="margin-left: 40px;">(U) Schedule: FY05 ARPDD program commencement.</p> <p style="margin-top: 40px;">Technical:</p> <p style="margin-left: 40px;">N/A</p>					Funding:	FY 2004	FY 2005	FY 2006	FY 2007	Previous President's Budget:	3.461	2.856	11.669	46.526	Current BES/ President's Budget	3.363	2.809	12.199	46.892	Total Adjustments	-0.098	-0.047	0.530	0.366	Summary of Adjustments					Congressional undistributed reductions		-0.034			SBIR/STTR Transfer	-0.095				Miscellaneous Adjustments		-0.013	-0.074	-0.269	Economic Assumptions	-0.003		0.604	0.635	Subtotal	-0.098	-0.047	0.530	0.366
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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 16 of 21)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:		
								February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME				
RDT&E, N / BA-05			0604261N Acoustic Search Sensors			4017 ARPDD				
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	To <u>Complete</u>	Total <u>Cost</u>
Line Item #36 (APN P-3 OSIP 29-94)	0	0	0	0	0	48.3	49.8	60.5	TBD	TBD
PE# 0204251N										
E. ACQUISITION STRATEGY:										
Analyze merits of sole source versus competitive procurement. Explore Alternatives. Award prime contract to TBD contractor. Technical support will be provided by NAWCWD (China Lake) and JHU/APL.										

R-1 SHOPPING LIST - Item No. 94

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 17 of 21)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE&E, N / BA-05			0604261N Acoustic Search Sensors			4017 ARPDD						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	TBD	TBD				9.500	12/05	42.200	12/06	Continuing	Continuing	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			0.000	0.000		9.500		42.200		0.000	51.700	
Remarks:												
											0.000	
Software Development	WX	Various		1.112	12/04						1.112	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses	C/CPFF	Various	0.511	0.500	11/04	0.300	11/05	0.300	11/06		1.611	1.611
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.511	1.612		0.300		0.300			2.723	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE&E, N / BA-05			0604261N Acoustic Search Sensors			4017 ARPDD						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Program Mgmt Support (Cont)	TBD	TBD	0.240	0.250	12/04	0.300	12/05	0.300	12/06	Continuing	Continuing	
Government Engineering Support	WX	Various	0.502	0.400	03/05	1.889	11/05	3.882	11/06	Continuing	Continuing	
Program Mgmt Support (Gov)	WX	Various	0.400	0.537	03/05	0.200	11/05	0.200	11/06	Continuing	Continuing	
Travel	WX	NAWCAD, Pax River, MD	0.010	0.010	02/05	0.010	10/05	0.010	10/06	Continuing	Continuing	
Engineering Support (Cont)	TBD	TBD	1.700	0.000		0.000		0.000			1.700	1.700
											0.000	
Subtotal Management			2.852	1.197		2.399		4.392		Continuing	Continuing	
Remarks:												
Total Cost			3.363	2.809		12.199		46.892		Continuing	Continuing	
Remarks:												

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
Automatic Radar Periscope Detection and Discrimination (ARPDD)																								February 2005								
APPROPRIATION/BUDGET ACTIVITY								PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME												
RDT&E, N / BA-05								0604261N Acoustic Search Sensors												4017 ARPDD												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones							MS-B △														MS-C △											
Prototype Phase (Prior to FY02)																																
System Development						SRR △	SFR △		Award △		SSR △	PDR △		CDR △							PRR △											
EDM & Pre Production Delivery																					Lab Units △ 1	△ 1					Test Articles △ 2	△ 2				
Software														Initial GFE																		
Test & Evaluation Milestones																																
Development Test																																
Operational Test																																
Production Milestones																																
LRIP																																
Deliveries																																

R-1 SHOPPING LIST - Item No. 94

Note: FY05 program commencement. Acquisition Status Report (ASR) still pending.

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 20 of 21)

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail Automatic Radar Periscope Detection and Discrimination (ARPDD)						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&BA-05		PROGRAM ELEMENT 0604261N Acoustic Search Sensors				PROJECT NUMBER AND NAME 4017 ARPDD		
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Prototype Phase								
Systems Requirement Review (SRR)		2Q						
System Functional Review (SFR)		3Q						
Milestone B		3Q						
Contract Award			1Q					
Software Specification Review (SSR)			3Q					
Preliminary Design Review (PDR)			4Q					
System Development			1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q - 4Q	1Q - 4Q
Critical Design Review (CDR)				3Q				
Quality Design and Build								
Test Readiness Review (TRR)							3Q	
Developmental Testing (DT-IIA)								
Lab Units						3Q-4Q		
Software Delivery								
Preproduction Readiness Review (PRR)						3Q		
Test Article Delivery							4Q	1Q
Milestone C (MS C)						4Q		
Operational Testing (OT-IIA)								
Low-Rate Initial Production (LRIP) Decision						4Q		
Software Delivery 2XXSW								
Developmental Testing (DT)								1Q-3Q
Developmental Testing (DT-IIB2)								
Start Low-Rate Initial Production II								
Operational Testing (OT)								2Q-4Q
Developmental Testing (DT-IIC)								
Functional Configuration Audit (FCA)								
Low-Rate Initial Production I Delivery								
Technical Evaluation (TECHEVAL)								
Physical Configuration Audit								
Operational Evaluation (OT-IIC) (OPEVAL)								
Low-Rate Initail Production II Delivery								
IOC								
Full Rate Production (FRP) Decision								
Full Rate Production Start								
First Deployment								

R-1 SHOPPING LIST - Item No.

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Exhibit R-2, RDTEN Budget Item Justification

(Exhibit R-2, page 21 of 21)

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EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					R-1 ITEM NOMENCLATURE 0604262N, V-22			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	357.261	263.541	206.376	266.240	93.451	25.124	22.159	1.815
H1425, V-22A	357.261	263.541	206.376	266.240	93.451	25.124	22.159	1.815

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The V-22 Osprey is an ACAT-ID Joint Program led by the Department of the Navy for the purpose of developing, testing, evaluating, procuring and fielding a tilt rotor, vertical takeoff and landing aircraft for Joint Service application. The V-22 program is designed to provide an aircraft to meet the amphibious/vertical assault needs of the Marine Corps, the strike rescue needs of the Navy, and the special operations needs of the Air Force and the United States Special Operations Command (USSOCOM). The V-22 will replace the CH-46E and CH53A/D in the Marine Corps with the MV-22; supplement the H-60 in the Navy with the HV-22; and replace the MH-53J and MH-53M as well as augment the C-130 in the Air Force and USSOCOM with the CV-22. The V-22 will be capable of flying over 2100 nautical miles with a single refueling, giving the services the advantage of a Vertical/Short Take-off, and Landing (VSTOL) aircraft that can rapidly self-deploy to any location in the world. This program is funded under Engineering Manufacturing and Development (EMD) to include Block A and Block B upgrades because it encompasses engineering and manufacturing development of new end-items prior to a production approval decision. Block C suitability and effectiveness upgrades begin in FY 06 and are the first planned upgrades after the scheduled full rate production decision.

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604262N, V-22A			PROJECT NUMBER AND NAME H1425, V-22			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	357.261	263.541	206.376	266.240	93.451	25.124	22.159	1.815
RDT&E Articles Qty								

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604262N, V-22A	PROJECT NUMBER AND NAME H-1425, V-22																	
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Contractor Activities	176.359	83.402	75.598	118.604															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> <p>Continue MV-22 development efforts by Bell-Boeing. Rolls-Royce continues to provide engine support and repair of repairables for MV-22 flight testing. Complete MV-22 software development efforts. Continue development in support of "Return to Flight" and MV-22 Block up-upgrades required to return the MV-22 to fleet operations in FY 04. Continue development of maintenance training equipment. Continue Weapons Repairable Assembly (WRA) and Test Program Set (TPS) development. Continue logistics, flight test, and flight test support, address correction of deficiencies, and provide funding for the V-22 Way Forward. Continue contracted development efforts on aircraft #8 and #10. Block C suitability and effectiveness upgrades begin in FY 06 and are the first planned upgrades after the scheduled full rate production decision.</p> </div>																			
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	FY 04	FY 05	FY 06	FY 07															
Field Activity Effort	80.187	61.256	33.490	50.611															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> <p>Continue in-house field activity support of Integrated Test Team (ITT), Integrated Product Teams (IPT), logistics and training activities, the manned flight simulator and numerous other efforts at over 12 activities. Continue development in support of "Return to Flight" and MV-22 Block up-upgrades required to return the MV-22 to fleet operations in FY 04. Continue field development efforts on aircraft #8, #10, and three LRIP aircraft. Provide R&D support in the areas of Reliability and Maintainability (R&M) data analysis, loads and dynamics, electromagnetic environmental effects, V-22 flight controls, survivability, subsystems, shipboard compatibility, propulsion, V-22 avionics, facilities, structures, communications, Small Business Innovative Research, etc. Continue logistics, flight test, and flight test support, and addressed correction of deficiencies. R&D support and planning for the Block C suitability and effectiveness upgrade which begin in FY 06. Block C is the first planned upgrades after the scheduled full rate production decision.</p> </div>																			
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	FY 04	FY 05	FY 06	FY 07															
CV-22 Block-0 Development	100.715	118.883	97.289	97.025															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> <p>Continue CV-22 Block-0 EMD development. Provide flight test support for CV-22 aircraft #7 and #9. Provide engineering and maintenance support for CV-22 flight testing. Fund fuel costs for test aircraft and/or engines. Provide R&D support in the areas of R&M data analysis, loads and dynamics, electromagnetic environmental effects, CV-22 flight controls, survivability, subsystems, shipboard compatibility, propulsion, CV-22 avionics, facilities, computer support, structures, communications, Small Business Innovative Research, etc. Continue logistics, flight test, and flight test support, and address correction of deficiencies. Support CV-22 Additional Test Asset (ATA) flight test infrastructure and contractor maintenance/logistics support for ATA.</p> </div>																			

R-1 SHOPPING LIST - Item No.

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 3 of 10)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																							
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604262N, V-22A	PROJECT NUMBER AND NAME H1425, V-22																																																																								
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 35%;">Funding:</th> <th style="text-align: right; width: 15%;">FY 04</th> <th style="text-align: right; width: 15%;">FY 05</th> <th style="text-align: right; width: 15%;">FY 06</th> <th style="text-align: right; width: 15%;">FY 07</th> </tr> </thead> <tbody> <tr> <td>Previous President's Budget:</td> <td style="text-align: right;">402.483</td> <td style="text-align: right;">304.164</td> <td style="text-align: right;">113.252</td> <td style="text-align: right;">42.592</td> </tr> <tr> <td>Current BES/President's Budget:</td> <td style="text-align: right;">357.261</td> <td style="text-align: right;">263.541</td> <td style="text-align: right;">206.376</td> <td style="text-align: right;">266.240</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-45.222</td> <td style="text-align: right; border-top: 1px solid black;">-40.623</td> <td style="text-align: right; border-top: 1px solid black;">93.124</td> <td style="text-align: right; border-top: 1px solid black;">223.648</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional program reductions</td> <td></td> <td style="text-align: right;">-42.000</td> <td></td> <td></td> </tr> <tr> <td> Congressional undistributed reductions</td> <td style="text-align: right;">-0.396</td> <td style="text-align: right;">-2.345</td> <td></td> <td></td> </tr> <tr> <td> Congressional rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> SBIR/STTR Transfer</td> <td style="text-align: right;">-9.628</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Other adjustments</td> <td></td> <td style="text-align: right;">-0.278</td> <td style="text-align: right;">90.937</td> <td style="text-align: right;">220.871</td> </tr> <tr> <td> Economic Assumptions</td> <td></td> <td></td> <td style="text-align: right;">2.187</td> <td style="text-align: right;">2.777</td> </tr> <tr> <td> Reprogrammings</td> <td style="text-align: right;">-35.198</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional increases</td> <td></td> <td style="text-align: right;">4.000</td> <td></td> <td></td> </tr> <tr> <td> Subtotal</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-45.222</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-40.623</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">93.124</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">223.648</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule:</p> <p style="margin-left: 20px;">The changes made to schedule reflect start of Block-C Critical Design Review (CDR) and correction to start of Block C Preliminary Design Review (PDR) . CV-22 IOT&E and CV-22 flight test changes due to Late delivery of ATA and PRTV Aircraft. CV-22 IOT&E Phase I changed to CV-22 Operational Utility Evaluation.</p> <p style="margin-top: 20px;">Technical:</p> <p style="margin-left: 20px;">Not Applicable</p>					Funding:	FY 04	FY 05	FY 06	FY 07	Previous President's Budget:	402.483	304.164	113.252	42.592	Current BES/President's Budget:	357.261	263.541	206.376	266.240	Total Adjustments	-45.222	-40.623	93.124	223.648	Summary of Adjustments					Congressional program reductions		-42.000			Congressional undistributed reductions	-0.396	-2.345			Congressional rescissions					SBIR/STTR Transfer	-9.628				Other adjustments		-0.278	90.937	220.871	Economic Assumptions			2.187	2.777	Reprogrammings	-35.198				Congressional increases		4.000			Subtotal	-45.222	-40.623	93.124	223.648
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R-1 SHOPPING LIST - Item No. 95

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 4 of 10)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:		
								February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME				
RDT&E, N / BA-5			0604262N, V-22A			H1425, V-22				
D. OTHER PROGRAM FUNDING SUMMARY:										
Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
16400 / V-22										
V-22 APN-1	845.281	914.516	1,060.576	1,594.810	1,814.572	2,347.668	2,477.902	2,528.068	13,390.468	26,973.861
V-22 APN-6 Spares	35.794	110.166	157.267	6.675	2.446	2.682	2.926	3.206	191.122	512.284
59000 / V-22										
V-22 APN-5	6.791	3.435	81.002	85.615	46.815	25.080	25.579	26.089	1,750.087	2050.493
Related RDT&E:										
0401318F CV-22	59.342	16.439	39.532	6.635	29.470	47.143	56.792	61.654	0.000	317.007
1160404BB CV-22	71.305	62.806	29.954	14.234	32.702	28.937	38.885	59.585	0.000	338.408
E. ACQUISITION STRATEGY:										
<p>The MV-22 is currently in EMD under contract N00019-93-C-0006 awarded to Bell-Boeing on 22 Oct 92, and definitized in May 94. As a result of mishaps during and subsequent to MV-22 OPEVAL (Apr and Dec 00), the program was restructured employing a phased approach to return to flight and tactical introduction. The Contractor and Government defined deficient areas within the program/aircraft requiring correction prior to return to flight. A Block Upgrade approach has been planned, with required efforts being identified in Block "A", "B", and "C". Block "A" includes those efforts necessary to return the V-22 to safe and operational fleet operations. Block "B" includes those efforts necessary to improve the effectiveness and suitability of the aircraft. Block "C" includes mission enhancements like forward cabin redesign and a full IETMS upgrade. Non-recurring development activities are to be initiated and completed for all efforts identified to be in Block "A", "B", and "C". The Contractor will develop specific Statements of Work and Preliminary Specification Change Notices required to integrate the Block Upgrade efforts into the baseline EMD Program. A Systems Requirements Review, Initial Design Review, and Final Design Review will be held for each of the Block efforts so the design maturity can be reviewed and the Government can redirect activities as appropriate. The CV-22 EMD program is structured in Blocks to define an evolutionary approach to achieving full operational capability. Block "0" is the initial baseline CV-22 variant. Block "10" enhances mission capability with the addition of Directional Infrared Countermeasures. Additional Blocks are in planning to continue the growth process throughout the operational life of the weapon system.</p>										

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 5 of 10)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005					
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-5			PROGRAM ELEMENT 0604262N, V-22A			PROJECT NUMBER AND NAME H1425, V-22							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
MV-22 Hardware Dev Airframe	SS CPAF	Bell-Boeing, PaxRiver, MD	3,359.730	46.325	01/05	54.516	01/06	114.305	01/07	104.232	3,679.108	3,679.108	
MV-22 Hardware Dev Propulsion	C/CPIF	Rolls Royce, Indianapolis, IN	182.737	3.308	01/05	2.814	01/06	1.219	01/07		190.078	190.078	
CV-22 Hardware Dev Airframe	SS CPAF	Bell-Boeing, PaxRiver, MD	713.972	84.451	01/05	81.381	01/06	82.778	01/07		962.582	962.582	
CV-22 Hardware Dev Propulsion	C/CPIF	Rolls Royce, Indianapolis, IN	11.996	0.909	01/05	0.700	01/06	0.700	01/07		14.305	14.305	
MV-22 Support Equipment Dev	Various	NAWCAD, Lakehurst	44.155	6.652	01/05	2.606	01/06	3.720	01/07	2.240	59.373		
CV-22 Support Equipment Dev	Various	NAWCAD, Lakehurst	19.659	7.640	01/05						27.299		
MV-22 Training Development	Various	Various	16.672			3.324	01/06	8.690	01/07	9.512	38.198		
Award Fees	SS CPAF	Bell-Boeing, PaxRiver, MD	187.918	18.378	01/05	12.148	01/06	2.397	01/07		220.841	220.841	
											0.000		
											0.000		
											0.000		
Subtotal Product Development			4,536.839	167.663		157.489		213.809		115.984	5,191.784		
Remarks: Total award fee pool available for MV and CV combined is \$222,936,693.00. To date \$190,012,676.00 has been awarded for a percentage of 85.2 percent.													
MV-22 Integrated Logistics Support	Various	Various	24.912	4.411	11/04	2.015	11/05	1.799	11/06	1.120	34.257		
CV-22 Integrated Logistics Support	Various	Various	7.426	1.369	11/04	1.750	11/05	1.750	11/06		12.295		
MV-22 Govt Engineering Spt	WX	NAWCAD, Pax River	1,085.425	2.523	11/04	5.451	11/05	4.440	11/06	3.952	1,101.791		
CV-22 Govt Engineering Spt	WX	NAWCAD, Pax River	17.625	1.489	11/04	4.389	11/05	4.367	11/06		27.870		
MV-22 Technical Data	C/CPIF	Bell-Boeing, Pax River, MD	71.574	15.391	11/04	6.300	11/05	0.796	11/06		94.061	94.061	
CV-22 Technical Data	WX	NATEC	6.235	8.004	11/04						14.239		
											0.000		
											0.000		
Subtotal Support			1,213.197	33.187		19.905		13.152		5.072	1,284.513		
Remarks:													

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RD T&E, N / BA-5			PROGRAM ELEMENT 0604262N, V-22A			PROJECT NUMBER AND NAME H1425, V-22						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
MV-22 Developmental Test & Eval	WX	NAWCAD, Pax River, MD	906.391	12.120	11/04	8.764	11/05	18.124	11/06	12.167	957.566	
CV-22 Developmental Test & Eval	MIPR	Edwards AFB, CA	16.808	13.511	11/04	8.240	11/05	6.680	11/06		45.239	
MV-22 Operational Test & Eval	WX	VMX-22, MCAS New River	28.124	6.451	11/04	2.458	11/05	2.034	11/06	1.661	40.728	
MV-22 Live Fire Test & Eval	WX	NAWCWD, China Lake, CA	1.636								1.636	
											0.000	
											0.000	
											0.000	
Subtotal T&E			952.959	32.082		19.462		26.838		13.828	1,045.169	
Remarks:												
MV-22 Contract Eng & Tech Svcs	Various	Various	1,016.738	15.777	11/04	1.542	11/05	2.212	11/06	1.728	1,037.997	
CV-22 Contract Eng & Tech Svcs	Various	Various	0.960								0.960	
MV-22 Management Support Svcs	Various	Various	131.706	9.079	11/04	4.333	11/05	6.672	11/06	4.206	155.996	
CV-22 Management Support Svcs	Various	Various	12.370	0.982	11/04	0.601	11/05	0.525	11/06		14.478	
MV-22 Studies & Analyses	Various	Various	2.056	1.588	11/04						3.644	
MV-22 Program Management Spt	WX	NAWCAD, Pax River	43.306	1.954	11/04	2.352	11/05	2.435	11/06	1.689	51.736	
CV-22 Program Management Spt	WX	NAWCAD, Pax River	9.588	0.228	11/04	0.128	11/05	0.125	11/06		10.069	
MV-22 Travel	WX	NAWCAD, Pax River	9.489	0.701	11/04	0.464	11/05	0.372	11/06	0.042	11.068	
CV-22 Travel	WX	NAWCAD, Pax River	4.125	0.300	11/04	0.100	11/05	0.100	11/06		4.625	
											0.000	
Subtotal Management			1,230.338	30.609		9.520		12.441		7.665	1,290.573	
Remarks:												
Total Cost			7,933.333	263.541		206.376		266.240		142.549	8,812.039	
Remarks:												

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:											
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-5												0604262N, V-22A												H-1425, V-22											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4							
Program Milestones									MS-III △					MV-22 IOC △							CV-22 IOC 2Q FY09 △														
Engineering Milestones	Blk B - PDR ▲		Blk B - CDR ▲											Blk C - PDR △	Blk C - CDR △																				
Test & Evaluation (T&E) Milestones			MV-22 OT-IIF ■											CV-22 OUE 3-4Q □						CV-22 IOT&E 1Q □															
			MV-22 OTRR ▲						OPEVAL Phase II □																										
Contract Milestones																																			

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Exhibit R-2, RDTEN Budget Item Justification

(Exhibit R-2, page 9 of 10)

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Termination Liability Funding
For Major Defense Acquisition Programs,
RDT&E Funding
(\$000)

Program	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
	0	0	0	0	0	0	0	0

This program does not budget/fund termination liability separately. A Limitation of Funds (LoF) clause (FAR 52.232-22) is inserted in all incrementally funded R&D contracts. This clause is designed to limit the government's legal liability to the amount obligated.

Instructions:

1. For all ACAT I programs with RDT&E funding, indicate the funds, by year, budgeted for termination liability.
2. If not budgeted, provide the appropriate waiver authority.
3. For programs with waiver authority, identify the amounts on the contract, by year.

R-1 SHOPPING LIST - Item No.

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Exhibit R-2, RDTEEN Budget Item Justification
(Exhibit R-2, page 10 of 10)

CLASSIFICATION:

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EXHIBIT R-2, RDT&E Budget Item Justification							DATE:	
							February 2005	
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE			
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					0604264N/Aircrew Systems Development			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	16.922	21.347	10.902	11.171	6.324	1.631	1.687	1.748
0606 Aircrew Systems Development	9.607	14.617	10.902	11.171	6.324	1.631	1.687	1.748
2877 Joint Helmet Mounted Cueing System	4.043	5.048						
9061 Intensifier Tube Advanced Development	3.272	1.682						
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
The Aircrew Systems Development program provides engineering and manufacturing development (EMD) of Aviation Life Support Systems to protect aircrews from current and future threats including: directed energy weapons, chemical/biological/radiological agents/fallout, ballistic projectiles, temperature extremes, heat/fire, low concentration oxygen environments, high dynamic forces during emergency egress, and high "G" forces. The program also provides development for the following capabilities: head protection, in flight restraint and stability emergency egress and descent, escape and evasion, survival and rescue, crash protection, and anthropometric sizing for small aircrew. Acquisition initiatives include: competition, the application of streamlining initiatives, use of non-developmental items (NDI), joint and tri-service developments, and the pursuit of NATO/allied cooperative ventures, which expedite introduction of new products into Navy and Marine Corps fixed and rotary wing aircraft, reduce costs, and promote commonality.								

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Exhibit R-2, RDTEN Budget Item Justification
 (Exhibit R-2, page 1 of 18)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604264N/Aircrew Systems Development				PROJECT NUMBER AND NAME 0606/Aircrew Systems Development			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	9.607	*14.617	10.902	11.171	6.324	1.631	1.687	1.748
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) SUBPROJECTS:

- (U) ESCAPE AND CRASH SAFETY: Navy Aircrew Common Ejection Seat Pre-Planned Product Improvement (NACES P3I), Advanced Crashworthy Aircrew Survival Systems (ACASS), Joint Cockpit Air Bag System (JCABS), Advanced Crash Sensor & Restraint (ACSR), Crashworthy Troop Seats (CWTS), Escape System Injury Reduction Program (ESIRP) includes Stability Improvement Program (SIP), Escape and Crashworthy Aircrew Endurance Modifications (ECAE), Mobile Aircrew Restraint System (MARS)/Tri-Service Safety Harness (TSSH).

- (U) LIFE SUPPORT/THREAT PROTECTION: Extreme Cold Weather Improvement Program/State of the Art Survival Items (ECWIP/SOASI), Personal Protective Apparel (PPA) formerly AMELIA, Aircrew Accommodation Expansion Program (AAEP), Aviation Oxygen Systems (AOS), Aircrew Exposure Protection Systems (AEPS) formerly Aircrew Cooling/Advanced Integrated Life Support Systems (AILSS), Liquid Oxygen to ON-Board Oxygen Generating System (LTO), Common Smoke Mask (CSM), Joint Protective Air Crew Ensemble (JPACE), Combat Survivor Evader Locater (CSEL).

- (U) HELMET, VISION AND DISPLAYS: Night Vision Systems (NVS), Joint Helmet Mounted Cueing System (JHMCS), Integrated Day/Night All Weather Helmet (IDNAWH), Wide Field of View (WFOV) Night Vision Goggle, JHMCS Night Attack, Agile Frequency Laser Eye Protection, and Laser Eye Protection Improvement Program (LEPIP), Joint Aircrew Laser Eye Protection Visor (JALEPV).

*FY 2005 includes Congressional Add for Lightweight Armored Troop Seat (LWATS) for H-60.

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CLASSIFICATION: UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																															
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604264N/Aircrew Systems Development	PROJECT NUMBER AND NAME 0606/Aircrew Systems Development																																
<p>(U) B. Accomplishments/Planned Program</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">3.596</td> <td style="text-align: center;">4.763</td> <td style="text-align: center;">1.576</td> <td style="text-align: center;">0.497</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 10px; min-height: 150px;"> <p>NACES P3I: Continue retrofit of phase I NACES P3I technologies in T-45 and F/A-18 aircraft. Phase II sequencer modifications are being incorporated in new production NACES equipped aircraft. Processes revised ECP to start retrofit of JHMCS modifications to NACES. ACASS: Conducting mishap trend analysis used to identify and prioritize crash and escape system improvements. JCABS: Continue to conduct technical reviews with Army to develop and integrate airbag technology to Navy H-60 aircraft. ACSR: Performing modeling and simulation to evaluate optimum design for advanced restraint integrated to various rotary wing applications. Conducting trade study to establish pricing for candidate modifications. CWTS: Completed CDR and PCA. Completed development - qualification testing (DT) of reduced weight troop seat design and delivered 20 OPEVAL seats for UH-1, ESIRP: Purchased long lead test hardware for qualification testing. Completed PDR and CDR for NACES Stability Improvement. Completed developmental testing (DT) of active stabilization system. Started component qualification of stabilization subsystems. Conducted aircraft integration fit checks. Conducted FMA 1. Conducting stability trade study for legacy ejection seat equipped aircraft. ECAE: Commenced limited testing (DT) of endurance modifications for ejection and crashworthy applications. MARS/TSSH: Completed PDR and CDR. Completed developmental testing (DT) of restraint in H-60. Continue flight testing of new retractor system in H-60. Common MARS: Commenced work on replacing existing gunners belt with more capable harness. Lightweight Armored Troop Seat (LWATS) H-60: Commenced developmental effort.</p> </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">2.384</td> <td style="text-align: center;">7.189</td> <td style="text-align: center;">8.832</td> <td style="text-align: center;">10.188</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 10px; min-height: 150px;"> <p>ECWIP/SOASI: Continue evaluation and authorizations of state of the art survival items. PPA: Complete fleet assessment, finalize technical data package, begin procurement and fielding of the Multi-Climate Protection System. AAEP: Continue evaluating aircraft seat positions in aircraft so equipped for accommodation issues. Publish technical reports on accommodation levels in aircraft. Continue developing detailed cockpit CAD pictures. Reevaluate aircraft and anthropometric restriction codes as modifications to existing aircraft and/or aircrew clothing and equipment occur or as new aircraft are introduced. AEPS/AILSS: Conduct DT testing. LOX TO OBOGS (LTO): Continuing work on integrating OBOGS study and Analysis of Alternatives to determine LOX-Free solution for Advanced Hawkeye(AHE).</p> </div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	3.596	4.763	1.576	0.497	RDT&E Articles Quantity						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	2.384	7.189	8.832	10.188	RDT&E Articles Quantity				
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RDT&E Articles Quantity																																		

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 3 of 18)

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CLASSIFICATION: UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604264N/Aircrew Systems Development	PROJECT NUMBER AND NAME 0606/Aircrew Systems Development		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	3.627	2.665	0.494	0.486
RDT&E Articles Quantity				
<p>NVS: WFOVNVG testing. JHMCS: MS III approved. JHMCS Night Attack: Continue SDD, initiate DT and OT. JALEPV: MS III. Night Attack: Initiate DT. Agile Frequency Laser: Continue development, conduct PDR.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				

R-1 SHOPPING LIST - Item No. 96

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604264N/Aircrew Systems Development	PROJECT NUMBER AND NAME 0606/Aircrew Systems Development		

C. PROGRAM CHANGE SUMMARY:

	FY 04	FY 05	FY 06	FY 07
Funding:				
Previous President's Budget:	8.668	8.838	3.446	2.382
Current BES/President's Budget	9.607	14.617	10.902	11.171
Total Adjustments	0.939	5.779	7.456	8.789
Summary of Adjustments				
Congressional undistributed reductions		-0.088		
SBIR/STTR Transfer	-0.049			
Miscellaneous Adjustments	0.988	4.867	7.435	8.762
Economic Assumptions			0.021	0.027
Congressional increases		1.000		
Subtotal	0.939	5.779	7.456	8.789

Schedule:

CWTS program rescope to meet new reduced weight UH-1Y requirements. CDR added to 2Q FY 04 and LRIP delayed to 2Q FY 05 to accommodate new design. ESIRP: Due to technical problems encountered with drogue sub system, qualification testing and LRIP has been delayed to 4Q FY 06. Engineering resources have been shifted to resolve integration and technical problems encountered during MARS development. The follow-on spec for common MARS is now scheduled for 2Q FY 05. Common MARS program added to better illustrate key acquisition events. Unlike MARS for H-60, PMA 202 is responsible for webbing retractor and aircraft integration. MARS Follow-on platform SOW/SPEC milestone deleted and added to Common MARS, MARS H-60 DT/OT completed in 1Q FY 05. Due to manufacturing delays, MS III for JALEPV will be delayed until 2Q FY 05. JHMCS P3I NIGHT ATTACK PDR and CDR slipped to 2Q FY 05 due to manufacturing delays. LOX TO OBOGS added to support LOX-Free solution for Advanced Hawkeye (AHE).

Technical:

Not Applicable.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604264N/Aircrew Systems Development			PROJECT NUMBER AND NAME 0606/Aircrew Systems Development			

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
Aviation Life Support - OPN 424400	32.108	31.944	26.946	13.264	20.778	23.022	23.584	24.158	CONT	CONT
Aviation Life Support Mods - APN 057500	3.091	2.473	0.323	16.302	15.962	8.313	8.546	11.579		66.589

E. ACQUISITION STRATEGY:

Commercial Off-The-Shelf (COTS)/NDI where possible, cost plus award fee contracts. Majority of programs non-ACAT programs with no specific acquisition strategies.

R-1 SHOPPING LIST - Item No. 96

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604264N/Aircrew Systems Development			0606/Aircrew Systems Development						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Systems Engineering	WX	NAWCAD, PAX RIVER, MD	46.802	6.829	Various	4.128	Various	3.257	Various	Continuing	Continuing	
Systems Engineering	WX	NAWCWD, CHINA LAKE, CA	5.321	0.377	Various	0.018	Various	0.022	Various	Continuing	Continuing	
Systems Engineering	WX	NSWC, INDIAN HEAD, MD	1.029	0.180	Various						1.209	
Systems Engineering	WX	NADEP, CHERRY PT., NC	0.295	0.090	Various						0.385	
Systems Engineering	WX	NAWCAD, LAKEHURST, NJ	0.144	0.073	Various						0.217	
Systems Engineering	WX	NADEP, NORTH ISLAND, CA		0.040	Various	0.040	Various	0.040	Various	Continuing	Continuing	
Systems Engineering	TBD	NORTHROP GRUMMAN		3.200	TBD	6.400	TBD	7.600	TBD	Continuing	Continuing	
Ancillary Hardware Development	TBD	TBD	2.400								2.400	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			55.991	10.789		10.586		10.919		Continuing	Continuing	
Remarks:												
Integrated Logistics Support	WX	NAWCAD, PAX RIVER, MD	17.589	0.613	Various	0.165	Various	0.165	Various	Continuing	Continuing	
Integrated Logistics Support	WX	NSWC, CRANE, IN	0.450	0.200	Various						0.650	
Studies & Analyses	WX	NAWCAD, PAX RIVER, MD	0.300								0.300	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			18.339	0.813		0.165		0.165		Continuing	Continuing	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE&E, N / BA-5			0604624N/Aircrew Systems Development			0606/Aircrew Systems Development						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWCAD, PAX RIVER, MD	36.766	0.832	Various	0.151	Various	0.087	Various	Continuing	Continuing	
Developmental Test & Evaluation	WX	NADEP, CHERRY PT., NC	0.386	0.230	Various						0.616	
Developmental Test & Evaluation	WX	NSWC, INDIAN HEAD, MD	0.233	0.150	Various						0.383	
Developmental Test & Evaluation	WX	NAWCWD,CHINA LAKE,CA		0.600	Various						0.600	
Operational Test & Evaluation	WX	COMOPTEVFOR,Norfolk		0.600	Various						0.600	
Operational Test & Evaluation	TBD	TBD	2.400	0.603	Various						3.003	
Award Fees											0.000	
Subtotal T&E			39.785	3.015		0.151		0.087		Continuing	Continuing	
Remarks:												
SBIR Assessment											0.000	
Government Engineering Support											0.000	
Program Management Support											0.000	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			114.115	14.617		10.902		11.171		Continuing	Continuing	
Remarks:												

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile

DATE:

February 2005

APPROPRIATION/BUDGET ACTIVITY

PROGRAM ELEMENT NUMBER AND NAME

PROJECT NUMBER AND NAME

RDT&E, N / BA-5

0604264N/Aircrew Systems Development

0606/Aircrew Systems Development

Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																																
LOX TO OBOGS																																
CWTS																																
MARS H-60																																
PPA																																
JALEPV																																
LWATS																																
JHMCS P3I NIGHT ATTACK																																
COMMON MARS																																
Test & Evaluation Milestones																																
LOX TO OBOGS																																
CWTS																																
JALEPV																																
MARS H-60																																
NACES II P3I																																
JHMCS P3I NIGHT ATTACK																																
WFOV NVG NIGHT																																
ESIRP																																
COMMON MARS																																
Production Milestones																																
MARS H-60																																
JALEPV																																
JHMCS																																
CWTS																																
COMMON MARS																																
ESIRP																																
Deliveries																																

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Exhibit R-4a, Schedule Detail						DATE:		
						February 2005		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME		
RDT&BA-5		0604264N/Aircrew Systems Development				0606/Aircrew Systems Development		
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
LOX TO OBOGS - CDR			1Q-2Q					
LOX TO OBOGS - DT, DT ASSIST		3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q			
CWTS - CDR, H-3, H-46 TBD	2Q	4Q						
CWTS - DT/OT, LRIP	1Q -4Q	1Q, 2Q						
MARS H-60- PDR, CDR	1Q, 3Q							
MARS H-60- LRIP		2Q						
MARS H-60 - DT/OT	1Q-4Q	1Q						
PPA - CDR		2Q						
JALEPV -MSIII, FRP		2Q	1Q					
JALEPV -DT/OT	1Q-2Q							
ESIRP - DT/OT, LRIP	1Q-4Q	1Q-2Q	4Q					
JHMCS P3I NIGHT ATTACK - PDR/CDR		2Q						
JHMCS P3I NIGHT ATTACK - DT/OT	3Q-4Q	1Q-4Q	1Q					
COMMON MARS - SPEC, DT/OT		2Q	2Q -4Q	1Q-4Q	1Q			
COMMON MARS - PDR, CDR, LRIP			3Q	3Q, 4Q				
NACES II P3I - DT	1Q-4Q	1Q-4Q						
WFOV NVG NIGHT ATTACK - DT/OT	1Q-4Q	1Q-4Q	1Q					
JHMCS - FRP	2Q							
LWATS - SBIR PHASE II		3Q						

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Exhibit R-2, RDTEN Budget Item Justification

(Exhibit R-2, page 10 of 18)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604264N/Aircrew Systems Development			PROJECT NUMBER AND NAME 2877/Joint Helmet Mounted Cueing System			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	4.043	5.048						
RDT&E Articles Qty	8	8						

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) SUBPROJECTS:

- (U) JOINT HELMET MOUNTED CUEING SYSTEM currently has the capability to cue and verify cueing of high off-axis sensors and weapons in the air-to-ground and air-to-air arena (TFLIR and AIM-9X). To take advantage and enhance the war fighting capability at night, the program is integrating night vision capabilities into the JHMCS. This will increase the pilot's situational awareness through all phases of flight. Many friendly and threat aircraft already employ helmet mounted systems. FY04 articles include four mock-up devices for laboratory efforts and four developmental test flight worthy devices. FY05 articles include eight developmental test/operational test flight worthy devices.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604264N/Aircrew Systems Development	PROJECT NUMBER AND NAME 2877/Joint Helmet Mounted Cueing System		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	4.043	5.048		
RDT&E Articles Quantity	8	8		
Initiate development, procure DT assets. Conduct DT, Integrated T&E, and OTRR. Initiate OT.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				

R-1 SHOPPING LIST - Item No. 96

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																													
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604264N/Aircrew Systems Development	PROJECT NUMBER AND NAME 2877/Joint Helmet Mounted Cueing System																																																														
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 35%;"></th> <th style="text-align: right; width: 15%;">FY 04</th> <th style="text-align: right; width: 15%;">FY 05</th> <th style="text-align: right; width: 15%;">FY 06</th> <th style="text-align: right; width: 15%;">FY 07</th> </tr> </thead> <tbody> <tr> <td>Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Previous President's Budget:</td> <td style="text-align: right;">4.153</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>Current BES/President's Budget</td> <td style="text-align: right;">4.043</td> <td style="text-align: right;">5.048</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-0.110</td> <td style="text-align: right; border-top: 1px solid black;">5.048</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional undistributed reductions</td> <td></td> <td style="text-align: right;">-0.051</td> <td></td> <td></td> </tr> <tr> <td> SBIR/STTR Transfer</td> <td style="text-align: right;">-0.106</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Miscellaneous Adjustments</td> <td></td> <td style="text-align: right;">-0.001</td> <td></td> <td></td> </tr> <tr> <td> Economic Assumptions</td> <td style="text-align: right;">-0.004</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional increases</td> <td></td> <td style="text-align: right;">5.100</td> <td></td> <td></td> </tr> <tr> <td> Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">-0.110</td> <td style="text-align: right; border-top: 1px solid black;">5.048</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule:</p> <p style="margin-left: 20px;">Not Applicable.</p> <p style="margin-top: 20px;">Technical:</p> <p style="margin-left: 20px;">Not Applicable.</p>						FY 04	FY 05	FY 06	FY 07	Funding:					Previous President's Budget:	4.153	0.000	0.000	0.000	Current BES/President's Budget	4.043	5.048	0.000	0.000	Total Adjustments	-0.110	5.048	0.000	0.000	Summary of Adjustments					Congressional undistributed reductions		-0.051			SBIR/STTR Transfer	-0.106				Miscellaneous Adjustments		-0.001			Economic Assumptions	-0.004				Congressional increases		5.100			Subtotal	-0.110	5.048	0.000	0.000
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R-1 SHOPPING LIST - Item No. 96

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 13 of 18)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:		February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604264N/Aircrew Systems Development			PROJECT NUMBER AND NAME 2877/Joint Helmet Mounted Cueing System					
D. OTHER PROGRAM FUNDING SUMMARY:											
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	To Complete	Total Cost	
Not Applicable											
E. ACQUISITION STRATEGY:											
Not Applicable											

R-1 SHOPPING LIST - Item No. 96

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 14 of 18)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604264N/Aircrew Systems Development			PROJECT NUMBER AND NAME 9061/Intensifier Tube Advanced Development			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	3.272	1.682						
RDT&E Articles Qty	5	3						
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>(U) SUBPROJECTS:</p> <p>- (U) INTENSIFIER TUBE ADVANCED DEVELOPMENT: The funding is needed to develop and integrate smaller and lighter night vision intensifier tubes (16mm) for narrow and wide field of view night vision systems. The advanced intensifier tubes will be the foundation for night vision devices that can be integrated with the Joint Helmet Mounted Cueing System (JHMCS) helmet mounted display system to provide a night vision cueing capability. This capability is necessary for rapid targeting of air-to-air missiles and air-to-ground weapons at night. Funding for the development of enhanced night vision imaging systems and the incorporation of the capability in current and future helmet mounted cueing systems will extend current daytime only technology for night use.</p> <p>RDT&E Articles are state of the art 16mm image intensifier tubes.</p>								

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604264N/Aircrew Systems Development	PROJECT NUMBER AND NAME 9061/Intensifier Tube Advanced Development																	
(U) B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">3.272</td><td style="text-align: center;">1.682</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td style="text-align: center;">5</td><td style="text-align: center;">3</td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	3.272	1.682	0.000	0.000	RDT&E Articles Quantity	5	3		
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	3.272	1.682	0.000	0.000															
RDT&E Articles Quantity	5	3																	
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">Refine 16 mm Intensifier Tube Technology. Continue development of automated intensifier measurement system. Deliver prototype state-of-the art 16 mm image intensifier tubes.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td></td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost					RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost																			
RDT&E Articles Quantity																			

R-1 SHOPPING LIST - Item No. 96

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 16 of 18)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604264N/Aircrew Systems Development	PROJECT NUMBER AND NAME 9061/Intensifier Tube Advanced Development

C. PROGRAM CHANGE SUMMARY:

	FY 04	FY 05	FY 06	FY 07
Funding:				
Previous President's Budget:	3.362	0.000	0.000	0.000
Current BES/President's Budget	3.272	1.682	0.000	0.000
Total Adjustments	-0.090	1.682	0.000	0.000
Summary of Adjustments				
Congressional undistributed reductions	-0.003	-0.018		
SBIR/STTR Transfer	-0.087			
Congressional increases		1.700		
Subtotal	-0.090	1.682	0.000	0.000

Schedule:

Not Applicable.

Technical:

Not Applicable.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604264N/Aircrew Systems Development			PROJECT NUMBER AND NAME 9061/Intensifier Tube Advanced Development				

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
Not Applicable										

E. ACQUISITION STRATEGY:

Not Applicable

R-1 SHOPPING LIST - Item No. 96

UNCLASSIFIED

CLASSIFICATION:

UNCLASSIFIED

[illegible]

U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The EA-18G is designed to replace the EA-6B aircraft. The EA-18G's electronic attack upgrades will meet EA-6B (with LR-700, ALQ-99, USQ-113) Airborne Electronic Attack (AEA) capability to detect, identify, locate and suppress hostile emitters; provide enhanced connectivity to National, Theater and Strike assets; and provide organic precision emitter targeting for employment of onboard suppression weapons High-speed Anti-Radiation Missile (HARM) to fulfill operational requirements. The EA-18G will have the capability to operate autonomously or as a major node in a network-centric operation. The performance of the aircraft is compatible with the primary strike/fighter aircraft projected to be in the inventory in the 2010 time period, allowing it to be fully integrated into specific strike packages. It will also have the capacity to provide broad area coverage for extended periods of time to support numerous strikes or other air operations in a federated context. The EA-18G is a scaleable, flexible solution that facilitates "Task Organized" force structures. The task organized force structures employ adequate forces to accomplish a specific task while maintaining the operation and personnel tempo at acceptable levels. The EA-18G is being designed to perform a range of Electronic Warfare/Electronic Attack functions either simultaneously or independently. The man in the loop operation and advanced information display system will allow real time assessment of the tactical situation and the appropriate response executed in accordance with the rules of engagement.

* The FY 2004 funding was executed under PE 0604270N PU 3063.

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 1 of 10)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604269N EA-18G			PROJECT NUMBER AND NAME 3063 EA-18G DEVELOPMENT			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	[*] 203.737	353.679	409.097	372.023	268.309	82.264	84.089	85.738
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The EA-18G is designed to replace the EA-6B aircraft. The EA-18G's electronic attack upgrades will meet or exceed EA-6B (with LR-700, ALQ-99, USQ-113) Airborne Electronic Attack (AEA) capability to detect, identify, locate and suppress hostile emitters; provide enhanced connectivity to National, Theater and Strike assets; and provide organic precision emitter targeting for employment of onboard suppression weapons (HARM) to fulfill operational requirements. The EA-18G will have the capability to operate autonomously or as a major node in a network centric operation. The performance of the aircraft is compatible with the primary strike/fighter aircraft projected to be in the inventory in the 2010 time period, allowing it to be fully integrated into specific strike packages. It will also have the capacity to provide broad area coverage for extended periods of time to support numerous strikes or other air operations in a federated context. The EA-18G is a scaleable, flexible solution that facilitates "Task Organized" force structures. The task organized force structures employ adequate forces to accomplish a specific task while maintaining the operation and personnel tempo at acceptable levels. The EA-18G is being designed to perform a range of Electronic Warfare/Electronic Attack functions either simultaneously or independently. The man in the loop operation and advanced information display system will allow real time assessment of the tactical situation and the appropriate response executed in accordance with the rules of engagement.

* The FY 2004 funding was executed under PE 0604270N PU 3063.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604269N EA-18G	PROJECT NUMBER AND NAME 3063 EA-18G DEVELOPMENT																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;">AEA Follow On</td><td style="width: 15%;">FY 04</td><td style="width: 15%;">FY 05</td><td style="width: 15%;">FY 06</td><td style="width: 15%;">FY 07</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td>173.270</td><td>302.793</td><td>320.268</td><td>268.242</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table> <div style="border: 1px solid black; height: 60px; margin-top: 10px; padding: 5px;">- Continue Air Vehicle Design and Integration of ICAP III Avionics into the EA-18G.</div>					AEA Follow On	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	173.270	302.793	320.268	268.242	RDT&E Articles Quantity				
AEA Follow On	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	173.270	302.793	320.268	268.242															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;">AEA Follow On</td><td style="width: 15%;">FY 04</td><td style="width: 15%;">FY 05</td><td style="width: 15%;">FY 06</td><td style="width: 15%;">FY 07</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td>24.069</td><td>43.219</td><td>49.939</td><td>45.734</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table> <div style="border: 1px solid black; height: 60px; margin-top: 10px; padding: 5px;">- Continue Software Development of the EA-18G.</div>					AEA Follow On	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	24.069	43.219	49.939	45.734	RDT&E Articles Quantity				
AEA Follow On	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	24.069	43.219	49.939	45.734															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;">AEA Follow On</td><td style="width: 15%;">FY 04</td><td style="width: 15%;">FY 05</td><td style="width: 15%;">FY 06</td><td style="width: 15%;">FY 07</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td>6.398</td><td>7.667</td><td>38.890</td><td>58.047</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table> <div style="border: 1px solid black; height: 60px; margin-top: 10px; padding: 5px;">- Start developmental testing/operational testing and planning for the EA-18G.</div>					AEA Follow On	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	6.398	7.667	38.890	58.047	RDT&E Articles Quantity				
AEA Follow On	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	6.398	7.667	38.890	58.047															
RDT&E Articles Quantity																			

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604269N EA-18G	PROJECT NUMBER AND NAME 3063 EA-18G DEVELOPMENT		

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 04	FY 05	FY 06	FY 07
Previous President's Budget:	215.431	357.502	407.106	368.688
Current BES/President's Budget	203.737	353.679	409.097	372.023
Total Adjustments	-11.694	-3.823	1.991	3.335
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-3.347		
Congressional rescissions				
SBIR/STTR Transfer				
Other adjustments		-0.476	-2.313	-1.903
Economic Assumptions	-0.200		4.304	5.238
Reprogrammings	-11.494			
Congressional increases				
Subtotal	-11.694	-3.823	1.991	3.335

Schedule:

PDR and CDR was moved at MS B decision to account for subsystem PDR and IBR schedule.

Technical:

Not Applicable

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 4 of 10)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604269N EA-18G			PROJECT NUMBER AND NAME 3063 EA-18G DEVELOPMENT			

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
P-1 LINE ITEM 2 & 3: EA-18G		8.211	336.661	891.507	1,308.289	1,627.333	1,469.445	1,083.602	0.000	6,725.048
APN-1 (EA-18G Weapons System Cost)										
Related RDT&E										
(U) 0604270N E0556 EW Counter Repsonse										
(U) 0604270N E3063 AEA Follow On										

E. ACQUISITION STRATEGY:

Development of EA-18G is based on the findings of an OSD sponsored Analysis of Alternatives and a Navy sponsored Refinement of Alternatives study. A sole source contract has been awarded to Boeing (the platform manufacturer) for system design and development. Boeing is under contract with Northrop Grumman to incorporate Electronic Warfare/Electronic Attack systems into the Super Hornet. The contract has been structured to minimize the Navy's up-front investment and cancellation penalty while reducing costs for the total program life cycle. The Cost-Plus Award Fee (CPAF) contract arrangement provides incentives based on cost, schedule, and technical performance. Starting in FY05 two F/A-18F's will be modified with RDT&E to incorporate the Electronic Warfare/Electronic Attack systems for further development, integration, and testing.

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604269N EA-18G			PROJECT NUMBER AND NAME 3063 EA-18G DEVELOPMENT						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hdw Development(Aircraft)	SS/CPAF	MDA- ST LOUIS	159.155	229.149	10/04	244.085	10/05	165.519	10/06	209.840	1,007.748	1,007.748
SDD Award Fee	SS/CPAF	MDA- ST LOUIS		13.100	10/04	12.200	12/05	19.180	12/06	42.718	87.198	87.198
Primary Hdw Development(Aircraft)	Various	Various	0.320	0.922	12/04	0.600	12/05	0.675	12/06	0.300	2.817	
Primary Hdw Development(ALQ-99)	WX	NSWC CRANE	3.028	8.403	11/04	8.096	11/05	8.766	11/06	8.095	36.388	
Systems Engineering	WX	NAWCWD-CHINA LAKE	6.822	11.157	10/04	14.129	10/05	29.873	10/06	39.791	101.772	
Systems Engineering	WX	NSWC CRANE	1.242	6.848	11/04	5.530	11/05	3.500	11/06	5.156	22.276	
Systems Engineering	WX	NAWCWD-POINT MUGU	4.878	8.640	11/04	10.673	11/05	11.332	11/06	15.535	51.058	
System Engineering	WX	NAWCAD- PAX RIVER	2.081	9.200	11/04	9.200	11/05	8.400	11/06	20.304	49.185	
System Engineering	WX	NAWCAD- LAKEHURST	2.198	0.600	12/04	0.200	11/05	3.200	11/06	3.780	9.978	
GFE	Various	Various	1.308	0.600	Various	0.100	12/05	0.200	11/06	0.150	2.358	
Subtotal Product Development			181.032	288.619		304.813		250.645		345.669	1,370.778	
Remarks:												
											0.000	
Software Development	SS/CPFF	MDA- ST LOUIS	25.569	43.219	10/04	49.939	10/05	45.734	10/06	42.951	207.412	207.412
Integrated Logistics	WX	Various	0.498	0.860	11/04	0.908	11/05	0.902	11/06	2.686	5.854	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Support			26.067	44.079		50.847		46.636		45.637	213.266	
Remarks: Note 1: FY02 costs were under PE 0604270N, E0556, EW Counter Response Note2: FY03 and FY04 costs were under PE 0604270N, E3063 AEA Follow On.												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)									DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE&E, N / BA-5			0604269N EA-18G			3063 EA-18G DEVELOPMENT						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWCAD-PAX RIVER	2.034	6.427	10/04	38.350	11/05	48.186	11/06	57.972	152.969	
Developmental Test & Evaluation	WX	NAWCWD-CHINA LAKE						9.046	11/06	11.216	20.262	
Developmental Test & Evaluation	MIPR	AEDC, TN	0.750	1.000	11/04						1.750	
Developmental Test & Evaluation	MIPR	NASA AMES	3.016								3.016	
Operational Test & Evaluation	WX	OPTEVFOR , NORFOLK VA	0.598	0.240	12/04	0.540	11/05	0.815	11/06	11.987	14.180	
											0.000	
											0.000	
Subtotal T&E			6.398	7.667		38.890		58.047		81.175	192.177	
Remarks:												
Contractor Engineering Support	Various	Various	2.673	2.175	12/04	2.095	11/05	2.148	11/06	9.042	18.133	
Program Management Support	WX	NAWCAD-PAX RIVER	3.238	3.831	11/04	5.152	11/05	5.247	11/06	13.789	31.257	
Government Engineering Support	WX	NAWCAD-PAX RIVER	1.627	6.968	12/04	6.800	11/05	8.800	11/06	23.733	47.928	
Travel	WX	NAVAIR, PAX RIVER MD	0.458	0.340	VAR	0.500	VAR	0.500	VAR	1.355	3.153	
Non-Add											0.000	
											0.000	
Subtotal Management			7.996	13.314		14.547		16.695		47.919	100.471	
Remarks:												
Total Cost			221.493	353.679		409.097		372.023		520.400	1,876.692	
Remarks: Note 1: FY02 costs were under PE 0604270N, E0556, EW Counter Response Note2: FY03 and FY04 costs were under PE 0604270N, E3063 AEA Follow On.												

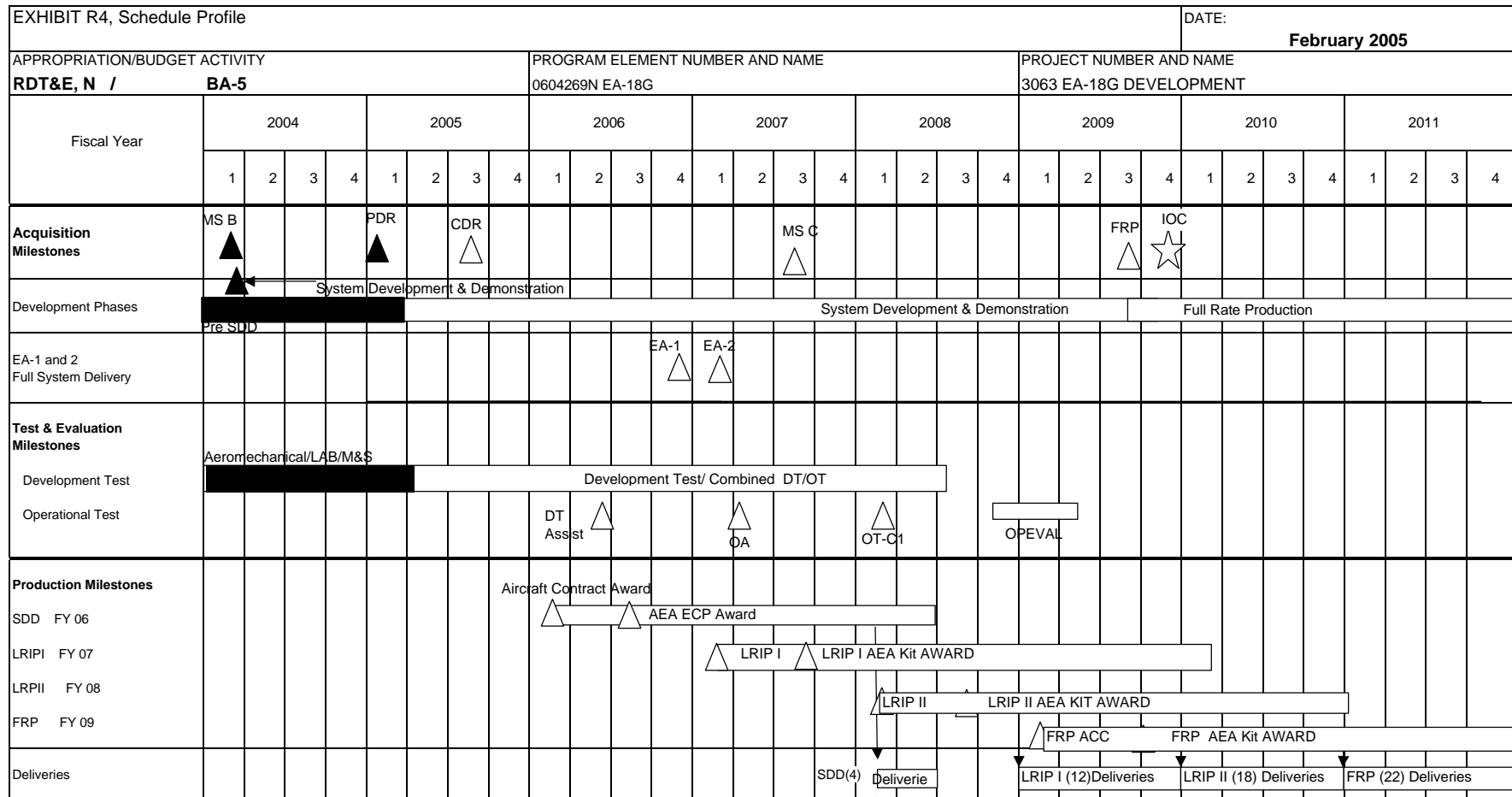
R-1 SHOPPING LIST - Item No. 97

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 7 of 10)

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 8 of 10)

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Exhibit R-4a, Schedule Detail						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT 0604269N EA-18G				PROJECT NUMBER AND NAME 3063 EA-18G DEVELOPMENT			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Pre System Development & Demonstration Phase(Pre-SDD)	1Q							
System Development & Demonstration Phase(SDD)	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q				
Developmental Testing	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q				
Milestone B (MSB)	1Q							
Preliminary Design Review (PDR)		1Q						
Critical Design Review (CDR)		3Q						
SDD Aircraft & Contract Award	1Q		1Q					
Development Test(DT) Assist			2Q					
SDD Production (AEA) Contract Award			3Q					
EA-1 Delivery			4Q					
EA-2 Delivery				1Q				
LRIP I Aircraft Contract Award (Funded in APN-1)				1Q				
Operational Assessment (OA)				2Q				
Milestone C (MSC)				3Q				
Start Low-Rate Initial Production II (LRIPII)								
Operational Testing (OT-C1)								
SDD Production Delivery (funded in APN-1)								
Operational Evaluation (OPEVAL)								
FRP Aircraft Contract Award								
Low-Rate Initial Production I Delivery								
Full Rate Production (FRP) Decision								
FRP AEA Contract Award								
IOC								
Low-Rate Initial Production II Delivery								
Full Rate Production (FRP) Delivery								

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 9 of 10)

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Termination Liability Funding
For Major Defense Acquisition Programs,
RDT&E Funding
(\$000)

Program	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
3063 EA-18G Development	0	0	0	0	0	0	0	0

This program does not budget/fund termination liability separately. A Limitation of Funds (LoF) clause (FAR 52.232-22) is inserted in all incrementally funded R&D contracts. This clause is designed to limit the government's legal liability to the amount obligated.

Instructions:

1. For all ACAT I programs with RDT&E funding, indicate the funds, by year, budgeted for termination liability.
2. If not budgeted, provide the appropriate waiver authority.
3. For programs with waiver authority, identify the amounts on the contract, by year.

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EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					R-1 ITEM NOMENCLATURE 0604270N Electronic Warfare Development			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006*	FY 2007*	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	270.264	49.655	42.667	39.936	35.631	36.628	37.574	38.451
0556 EW Counter Response	42.406	33.558	33.362	32.775	33.718	34.773	35.682	36.523
2175/2635 Tactical Air Electronic Warfare	21.578	13.226	7.631	5.339				
3063 EA-18G	203.737							
2260 Specific Emitter Identification	0.756	0.708	0.726	0.675	0.745	0.666	0.681	0.696
1742 EW Readiness Support	0.812	0.875	0.948	1.147	1.168	1.189	1.211	1.232
9374 ACETEF and JRAAC	0.975							
9499 IR Signature		1.288						
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This element includes development of electronic warfare systems for the United States Navy (USN), United States Marine Corps (USMC), and United States Army (USA) tactical aircraft, USMC helicopters, surface combatants, data link vulnerability assessments, precision targeting, USMC communications and non-communications jammers, and development and testing of electronic warfare devices for emergency contingencies.								
NOTE: * RDT&E project 3063 EA-18G was executed under PE 0604270N in FY 2004 and prior. In FY 2005 and later PU 3063 has been moved to PE 0604269N. Detailed budget justification is shown under the new PE.								

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 Exhibit R-2, RDTEN Budget Item Justification
 (Exhibit R-2, page 1 of 38)

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604270N Electronic Warfare Development				PROJECT NUMBER AND NAME 0556 EW Counter Response			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	42.406	33.558	33.362	32.775	33.718	34.773	35.682	36.523
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This Program Element (PE) develops upgrades to cope with the increasingly complex and dense threat environment. The required improvements in EA-6B Electronic Attack (EA) will be achieved by applying state-of-the-art signal exploitation/processing/display techniques, improved tactics and jamming capabilities. Tactical communications connectivity improvements include Joint Tactical Terminal and Tactical Receive Equipment (TRE) Related Applications (TRAP), Tactical Digital Information Exchange System-B (TADIXS-B), Tactical Digital Information Link-J (TADIL-J), Tactical Information Broadcast Services (TIBS), Tactical Reconnaissance Information Exchange System (TRIXS), USN/USAF Advisory Support Network (ASN) Intelnet, Demand Assigned Multiple Access (DAMA)-capabilities. The EA-6B weapon system is ultimately designed for precision and strike targeting, jamming and destruction of enemy landbased, shipborne and airborne command, control and communications (C3), and radars associated with early warning, target acquisition surveillance, anti-aircraft artillery, air-to-surface, surface-to-surface, and surface-to-air missiles. In this capacity, the EA-6B will support both carrier based tactical aircraft battle group operations, and joint forces, in dense radar controlled environments. The efforts under this program element provide for the electronic countermeasures response to these advanced threat weapon systems and C3 networks which are expanding in density and technical complexity. This PE funds the continuing development and integration of all EW and EA systems for the EA-6B electronic attack aircraft including improvements within precision Direction of Arrival (DOA), geo-location, Specific Emmitter Identification (SEI), auto-ESM, and selective reactive jamming.

The test articles begun in FY 1999 are; two EA-6B aircraft modified to support the Improved Capability (ICAP) III program and Low Band Transmitter (LBT) Engineering Development Models (EDMs). The two EA-6B aircraft will be used as test articles during government test and evaluation (TECHEVAL/OPEVAL). The LBT EDMs are broken out as LBT Antenna Set EDMs and Amplifier Set EDMs. The ALQ-99 LBT Antenna Group will provide an expanded war fighting capability against the early warning/acquisition radars and communication links of modern integrated air defense systems. The LBT entered E&MD in September 1996, followed by Low Rate Initial Production (LRIP) anticipated in FY 2005 and Full Rate Production (FRP) approval (Milestone III) anticipated in FY 2006. All efforts and system upgrades include the conversion of and transition from the Tactical EA-6B Mission System (TEAMS) mission planner software to the Joint Mission Planning System (JMPS), including development of EA-6B Unique Planning Modules.

A requirement exists to allow the EA-6B to participate in various coordinated targetting scenarios such as Network Centric Warfare, Force Net, improved Suppression of Enemy Air Defenses/Destruction of Enemy Air Defenses, (SEAD/DEAD), and other strategic-and theatre-based DOD networks and strategies. Likewise, the ICAP III system shall be matured to enable the fusion and correlation of both organic and non-organic threat information to better present sensor and targetting information to the theatre commander via coordinated efforts with other airborne, ground and ship-based operations. A method of implementing this requirement is to include the EA-6B on the Link-16 EW Network. Incorporation of the full EW Link-16 message set into the EA-6B and participation of the ICAP III within the Network Centric Warfare arena will greatly improve the Strike Group Commander's situational awareness.

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Exhibit R-2a, RDTE Project Justification
(Exhibit R-2a, page 2 of 38)

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604270N Electronic Warfare Development	PROJECT NUMBER AND NAME 0556 EW Counter Response		
B. Accomplishments/Planned Program				
ICAP III	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	12.566	12.501	4.135	1.826
RDT&E Articles Quantity				
<p>(U) Continue development of ICAP III system. Efforts will concentrate on completion of Operational Testing (OPEVAL), correction of high priority deficiencies, and continued maturation of the ALQ-218 receiver/jammer system and associated tactics.</p>				
ICAP III UPDATE	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	16.417	6.402	14.403	14.361
RDT&E Articles Quantity				
<p>(U) Continue optimizing the ICAP III weapon system performance to include integration of both software upgrades and avionics items which include the second Embedded Global Positioning System/Inertial Navigation System (EGI), HARM, ALE-47, Low Band Transmitter, Band 7/8, Night Vision Devices (NVDs), USQ-113 software improvements and data fusion with national assets. The course of maturing ICAP III to full potential will consist of 4 Block upgrades to deliver approximately 15 months apart.</p>				
Mission Planning	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.849	1.974	1.810	2.700
RDT&E Articles Quantity				
<p>(U) Replacement of the Tactical EA-6B Mission System (TEAMS) with the Joint Mission Planning Systems (JMPS) and associated EA-6B Unique Planning Components (UPC's).</p>				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604270N Electronic Warfare Development	PROJECT NUMBER AND NAME 0556 EW Counter Response		
B. Accomplishments/Planned Program (Cont.)				
LINK-16 Message Sets and Data Links	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.334	2.376	2.510	2.280
RDT&E Articles Quantity				
<p>(U) Complete testing and correction of deficiencies of the Link-16 modification. Mature the ICAP III weapon system and Link 16 network participation to its full potential by incorporating additional Electronic Warfare message sets enabling full integration with other EW national assets. These datalink enhancements will enable the EA-6B ICAP III participation within Force Net and facilitate the EA contributions to the greater situational awareness allowed by NetWork Centric Warfare efforts.</p>				
JATO	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	9.640	10.305	10.504	11.608
RDT&E Articles Quantity				
<p>(U) Continue software development and test support required to address and counter new threat development for both the ICAP II and ICAP III EA configurations. JATO will continue to optimize and generate tactics and techniques as the full potential of the ALQ-218's selective reactive jamming capabilities are developed and employed. JATO will optimize the fusion and correlation of the ALQ-218 tracks with other national asset contacts.</p>				
FIBER OPTIC	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.600			
RDT&E Articles Quantity				
<p>(U) Continued development of the Fiber Optic Wave Division Multiplexing Flight Testing Optical Communication using Open Standards (FOCUS) 2 for the developmental testing, and the EA-6B lab at Point Mugu and Crane, for the Highly Integrated Photonics (HIP).</p>				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604270N Electronic Warfare Development	PROJECT NUMBER AND NAME 0556 EW Counter Response

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 04	FY 05	FY 06	FY 07
Previous President's Budget	35.366	33.968	35.229	35.846
Current BES/President's Budget	42.406	33.558	33.362	32.775
Total Adjustments	7.040	-0.410	-1.867	-3.071
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.369		
Congressional rescissions				
SBIR/STTR Transfer				
Other adjustments		-0.041	-2.895	-3.592
Economic Assumptions	-0.033		1.028	0.521
Reprogrammings	7.073			
Congressional increases				
Subtotal	7.040	-0.410	-1.867	-3.071

Schedule:

ICAP III Full Rate Production (FRP) moved to FY05. The two primary factors in the schedule slip were software development and lack of test assets. The ICAP III program completed operational testing (OPEVAL) on 3 Sept 2004, and is currently completing Verification for Correction of Deficiencies.

Technical:

Not Applicable

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604270N Electronic Warfare Development			PROJECT NUMBER AND NAME 0556 EW Counter Response					
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
P-1 # 24, EA-6 Series	235.839	115.828	120.619	49.152	22.976	18.378	18.85	19.331	119.413	3072.4
E. ACQUISITION STRATEGY:										
<ul style="list-style-type: none">- The LBT development contract occurred following a full and open competition and was awarded to BAE Systems (formerly MARCONI). Following development and successful DT/OA, sole source LRIP contracts will be awarded. Following successful OT, a sole source production contract will be awarded.- The ICAP III contract, an E&MD CPIF/AF basic contract with two Fixed Price Incentive (FPI) production options, was awarded to a Northrop Grumman team in March 1998 following Milestone II and a full and open competition. The contract was changed to a CPAF contract in FY 1999. LRIP contract award was completed in FY 2003. Milestone III and Full Rate Production are scheduled for FY 2005 with Initial Operating Capability in FY 2005.										

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE:				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604270N Electronic Warfare Development			0556 EW Counter Response						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Dev - LBT	C/FPI	BAE Systems Lansdale, PA	31.567								31.567	31.567
Primary Hdw Develop - ICAP III	C/CPAF	Northrop Grumman, NY	245.304	4.553	01/05	3.508	10/05	1.642	10/06		255.007	255.007
Primary Hdw Develop - Spray Cool	C/CPFF	Isothermal Sys Research	2.612								2.612	2.612
Primary Hdw Develop - Link 16	SS/CPFF	Northrop Grumman, NY	56.687								56.687	56.687
Primary Hdw Develop - Min of ICAP	SS/CPFF	Northrop Grumman, NY	2.636								2.636	2.636
Primary Hdw Develop - LOCO GPSI	TBD	SPAWAR	8.786								8.786	8.786
Primary Hdw Develop - Fiber Optic	C/CPFF	DMEA, McClellan AFB	1.082								1.082	1.082
Primary Hdw Develop - EA-18G	SS/CPFF	McDonnell Douglas	2.024								2.024	2.024
PHD - ICAP III Blk Updates/MIDS	BOA	Northrop Grumman, NY	6.474	4.576	11/04	7.209	10/05	8.128	10/06	17.500	43.887	43.887
Aircraft Integration - Spray Cool	C/CPFF	Isothermal Sys Research	6.531								6.531	6.531
Primary Hdw Develop-EA-18G	SS/CPFF	McDonnell Douglas	2.024								2.024	2.024
Systems Engineering	WX	NRL, Wash DC	9.787	0.625	10/04	0.800	10/05	1.000	10/06	Continuing	Continuing	
Systems Engineering	WX	NADEP JAX	6.845	0.850	10/04	0.725	10/05	0.750	10/05	Continuing	Continuing	
Systems Engineering	WX	NSWC Crane	12.967	2.463	10/04	1.175	10/05	1.020	10/06	Continuing	Continuing	
Systems Engineering	WX	NAWCAD PAX	29.752	4.954	10/04	6.331	10/05	5.147	10/06	Continuing	Continuing	
Systems Engineering	WX	NAWCAD LKE	3.337	0.200	10/04	0.200	10/05	0.200	10/06	Continuing	Continuing	
Systems Engineering	WX	NAWCWD, PT MUGU	30.866	5.300	10/04	4.557	10/05	4.790	10/06	Continuing	Continuing	
Systems Engineering	WX	VARIOUS	49.319	1.507	10/04	0.400	10/05	0.769	10/06	Continuing	Continuing	
Award Fees - ICAP III	C/CPAF	Northrop Grumman, NY	6.474	4.000	10/04						10.474	10.474
Subtotal Product Development			515.074	29.028		24.904		23.446		Continuing	Continuing	
Remarks: FY03 and prior year award fee earned is 46% (ICAP III)												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 7 of 38)

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 8 of 38)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604270N Electronic Warfare Development			0556 EW Counter Response						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Testing - ICAP III	WX	NAWCAD, PAX	8.522								8.522	
Dev Test - ICAP III Blk I/II/III	WX	NAWCAD, PAX		1.530	10/04	2.475	10/05	2.650	10/06		6.655	
Developmental Testing - Mission Plan	WX	NAWCWD, PT MUGU	0.400	0.200	12/04	0.484	12/05	0.850	12/06		1.934	
Developmental Testing - Fiber Optic	WX	NAWCAD, PAX	0.398								0.398	
Developmental Testing - LBT	WX	NAWCAD, PAX	3.893								3.893	
Developmental Testing - Spray Cool	WX	NAWCWD, PT MUGU	1.306								1.306	
Operational Test & Eval: Mission Plan	WX	OPTEVFOR, Norfolk, VA	0.200	0.300	12/04	0.200	12/05	0.200	12/06		0.900	
Operational Test & Eval: ICAP III	WX	OPTEVFOR, Norfolk, VA	11.756			2.785	11/05	2.850	10/06		17.391	
Operational Test & Eval: LBT	WX	OPTEVFOR, Norfolk, VA	1.000								1.000	
Subtotal T&E			27.475	2.030		5.944		6.550		0.000	41.999	
Remarks: Funding is required to conduct ICAP III and LBT developmental/operational test planning, execution and reporting.												
Government Eng Supt - Mission Plan	WX	NAWCWD, PT MUGU	0.200	0.100	02/05	0.400	11/04	0.475	02/07		1.175	
Program Mgmt Support- Spray Cool	WX	NAWCAD, PAX	1.306								1.306	
Subtotal Management			1.506	0.100		0.400		0.475		0.000	2.481	
Remarks:												
Total Cost			587.611	33.558		33.362		32.775		Continuing	Continuing	
Remarks:												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 9 of 38)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME								PROJECT NUMBER AND NAME												
RDT&E, N / BA-5												0604270N Electronic Warfare Development								0556 EW Counter Response												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones LBT																																
LBT																																
Acquisition Milestones ICAP III																																
Test & Evaluation Milestones LBT																																
ICAP III Development Test/Operational Test																																
Production Milestones LBT																																
LRIP Start - FY05																																
FRP Start - FY07																																
ICAP III LRIP Award - FY03																																
FRP FY 07																																
Deliveries																																

* Not required for Budget Activities 1, 2, 3, and 6

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 10 of 38)

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 11 of 38)

CLASSIFICATION:

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/ BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604270N Electronic Warfare Development				PROJECT NUMBER AND NAME 2175/2635 TACAIR ELECTRONIC WARFARE			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	21.578*	13.226	7.631	5.339				
RDT&E Articles Qty	Not Applicable							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This subproject develops the new techniques generator and fiber optic towed decoy of the Radio Frequency Countermeasures (RFCM) Subsystem as well as the Navy-unique portions of Advanced Strategic and Tactical Expendables (ASTE). It also integrates RFCM and ASTE with Radar Warning Receiver (RWR), Countermeasures Dispensing Set (CMDS) and associated cockpit controls and displays to provide the lead aircraft (F/A-18E/F) with increased survivability against Infrared/Radio Frequency (IR/RF) threats.

AN/ALR-67(V)3&4 RADAR WARNING RECEIVER: This subproject developed the system which provides enhanced situational awareness by providing accurate azimuth display of all programmed threats, independent of aircraft attitude. This also acted as an Electronic Warfare (EW) Bus Controller.

AN/ALE-50 ADVANCED AIRBORNE EXPENDABLE DECOY (AAED): This subproject developed the system to decoy enemy radio frequency homing missiles away from friendly aircraft.

*FY 2004 reflects a \$9.000M Congressional Add for IDECM , Project 2635 which has been revised by -\$0.008M Congressional undistributed reduction, -\$0.100M for Economic Assumptions, and - \$0.143M for Small Innovative Research. Project 2635 does not have any funding after FY 2004.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604270N Electronic Warfare Development	PROJECT NUMBER AND NAME 2175/2635 TACAIR ELECTRONIC WARFARE		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	21.578	13.226	7.631	5.339
RDT&E Articles Quantity				
<p>Fund engineering and manufacturing (E&MD) contract and engineering, technical and logistic support. Fund A-Kit Block 2 (ALQ-214) efforts for integration of the Radio Frequency Countermeasure (RFCM) subsystems into the F/A-18 E/F.</p> <p>Fund Block 3 (Fiber Optic Towed Decoy (FOTD) efforts for integration of the RFCM subsystems into the F/A-18 E/F.</p> <p>Fund Block 3 (FOTD) Combined Developmental Testing and Operational Testing. Fund Block 3 (FOTD) OPEVAL and Milestone III decision.</p>				

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604270N Electronic Warfare Development	PROJECT NUMBER AND NAME 2175/2635 TACAIR ELECTRONIC WARFARE

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2004	FY 2005	FY 2006	FY 2007
Previous President's Budget:	22.057	13.354	7.582	5.289
Current BES/President's Budget	21.578	13.226	7.631	5.339
Total Adjustments	-0.479	-0.128	0.049	0.050
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.117		
Congressional rescissions				
SBIR/STTR Transfer	-0.143			
Other adjustments		-0.011	-0.011	-0.030
Economic Assumptions	-0.008		0.060	0.080
Reprogrammings	-0.328			
Congressional increases				
Subtotal	-0.479	-0.128	0.049	0.050

Schedule:

Schedule has been restructured due to the Air Force no longer participating in the IDECM program.

Technical: Not Applicable.

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005																									
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604270N Electronic Warfare Development			PROJECT NUMBER AND NAME 2175/2635 TACAIR ELECTRONIC WARFARE																										
<p>D. OTHER PROGRAM FUNDING SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Line Item No. & Name</u></th> <th style="text-align: right;"><u>FY 2004</u></th> <th style="text-align: right;"><u>FY 2005</u></th> <th style="text-align: right;"><u>FY 2006</u></th> <th style="text-align: right;"><u>FY 2007</u></th> <th style="text-align: right;"><u>FY 2008</u></th> <th style="text-align: right;"><u>FY 2009</u></th> <th style="text-align: right;"><u>FY 2010</u></th> <th style="text-align: right;"><u>FY 2011</u></th> <th style="text-align: right;"><u>To Complete</u></th> <th style="text-align: right;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>APN-5 Line 52 Common ECM (OSIP 007-03 - IDECM)</td> <td style="text-align: right;">11.818</td> <td style="text-align: right;">36.098</td> <td style="text-align: right;">42.942</td> <td style="text-align: right;">35.121</td> <td style="text-align: right;">36.027</td> <td style="text-align: right;">36.459</td> <td style="text-align: right;">37.238</td> <td style="text-align: right;">38.511</td> <td style="text-align: right;">148.444</td> <td style="text-align: right;">422.658</td> </tr> </tbody> </table> <p>E. ACQUISITION STRATEGY:</p> <p>IDECM sole source radio frequency countermeasure full rate production (FRP) in FY 04 and Fiber optic towed decoy sole source FRP in FY 07.</p>											<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>	APN-5 Line 52 Common ECM (OSIP 007-03 - IDECM)	11.818	36.098	42.942	35.121	36.027	36.459	37.238	38.511	148.444	422.658
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>																						
APN-5 Line 52 Common ECM (OSIP 007-03 - IDECM)	11.818	36.098	42.942	35.121	36.027	36.459	37.238	38.511	148.444	422.658																						

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N/BA-5			0604270N Electronic Warfare Development			2175/2635 TACAIR ELECTRONIC WARFARE						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Develop (IDECM)	C-CPIF	BAE/NH	231.713								231.713	231.713
Ancillary Hardware Develop (IMPLC)	SS/CPFF	RAYTHEON/GOLETA, CA	28.312	1.250	12/04	0.600	12/05	0.400	12/06		30.562	30.562
Training Development												
Aircraft Platform Integration (IDECM)	SS/FFP	BOEING, MO	70.761	0.400	10/04	0.500	12/05	0.250	12/06		71.911	71.911
Ship Suitability												
Systems Engineering	WX/RX	CHINA LAKE/CA	61.559	0.925	10/04	0.600	10/05	0.450	10/06		63.534	
EMD Support (IDECM)	BOA	BAE/NH	16.383	0.400	12/04	0.550	12/05	0.500	12/06		17.833	17.833
Navy Only Fiber Optic Towed Decoy	CPFF	Raytheon/Goleta, CA		0.380	12/04	0.300	12/05	0.250	12/06		0.930	0.930
Tooling												
Award Fees												
Miscellaneous (effort < \$1M each)	WX/RX	VARIOUS	46.390								46.390	
Navy Only Fiber Optic Towed Decoy	CPFF	ITT/NJ		0.200	12/04	0.150	12/05	0.100	12/06		0.450	0.450

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Exhibit R-3 Cost Analysis (page 2)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N/BA-5			0604270N Electronic Warfare Development			2175/2635 TACAIR ELECTRONIC WARFARE						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Development Support												
Software Development (IDECM)	SS/CPFF	Raytheon, Goleta CA	6.349								6.349	6.349
Integrated Logistics Support	WX/RX	Jacksonville, FL	0.695	0.300	03/05	0.250	12/05	0.200	11/06		1.445	
Configuration Management												
Technical Data												
Studies & Analyses	WX/RX	Various	0.500	0.222	02/05	0.150	12/05				0.872	
GFE												
Award Fees												
Software Development (IDECM)	SS/CPFF	Litton, CA	4.336								4.336	4.336
Subtotal Support			11.880	0.522		0.400		0.200			13.002	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 3)										DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5			PROGRAM ELEMENT 0604270N Electronic Warfare Development				PROJECT NUMBER AND NAME 2175/2635 TACAIR ELECTRONIC WARFARE						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
ENGINEERING/LOGISTIC SPT	WX/RX	NAWC-AD/PAX	26.972	1.500	11/04						28.472		
ENGINEERING TECH FLT TEST	WX/RX	NAWC-WD, CL	39.538	6.850	12/04	2.049	10/05	1.850	10/06		50.287		
Miscellaneous (efforts < \$1M each)	WX/RX	Various	3.087	0.099	12/04	0.150	12/05	0.100	12/06		3.436		
Test Support	WX/RX	OPTEVFOR	3.045			1.700	11/05	0.800	10/06		5.545		
Tooling													
GFE													
Award Fees													
Subtotal T&E			72.642	8.449		3.899		2.750			87.740		
Remarks:													
Contractor Engineering Support													
Government Engineering Support													
Program Management Support	WX/RX	NAWC-AD/Pax/Various	22.797	0.700	11/04	0.632	10/05	0.439	10/06		24.568		
Miscellaneous (efforts < \$1M each)	WX/RX	Various	6.421								6.421		
Transportation													
SBIR Assessment													
Subtotal Management			29.218	0.700		0.632		0.439			30.989		
Remarks:													
Total Cost			568.858	13.226		7.631		5.339			595.054		
Remarks:													

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 18 of 38)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
February 2005																																
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N/BA-5									0604270N Electronic Warfare Development												2175/2635 TACAIR ELECTRONIC WARFARE											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones		MS III ▲ IB-2			IOC ★ IB-2							MS III △ IB-3	IOC ☆ IB-3																			
IB-3 Development	▲	Envelope Expansion/DT / Combined DT/OT								△																						
Software	[REDACTED]																															
		IB-2 / IB-3 UPDATES																														
Navy Only Requirement FOTD					▲	Development				△																						
Test & Evaluation Milestones																																
IB-3 Development																																
Navy Only Requirement FOTD																																
IB-3 Integrated DT/OT																																
Production Milestones																																
ALQ-214 (IB2)			FRP 1 ▲		FRP 2 ▲					FRP 3 △				FRP 4 △				FRP 5 △				FRP 6 △				FRP 7 △				FRP 8 △		
Navy Only Requirement FOTD (IB3)										LRIP 2 △				FRP 1 △				FRP 2 △				FRP 3 △				FRP 4 △				FRP 5 △		
Deliveries																																
ALQ-214			LRIP 2			LRIP 3			FRP1				FRP2				FRP3				FRP 4				FRP 5				FRP 6			
Navy Only Requirement FOTD													LRIP 2				FRP 1				FRP 2				FRP 3				FRP 4			

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 19 of 38)

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E, N/BA-5	0604270N Electronic Warfare Development				2175/2635 TACAIR ELECTRONIC WARFARE			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
IB-2 MILESTONE III (IB-2)	2Q							
IB-2 IOC (IDECM BLOCK 2)		1Q						
IB-3 MILESTONE III			4Q					
IB-3 IOC				2Q				
IB-3 Development, Envelope Expansion/DT/Combined DT/OT	1Q-4Q	1Q-4Q	1Q					
IB-2/ IB-3 Updates (Software)	1Q-4Q	1Q-4Q						
Navy Only FOTD Development		1Q-4Q	1Q					
IB-3 Development DT	1Q-4Q	1Q-2Q						
Navy Only FOTD Combined DT/OT (T&E)		3Q-4Q	1Q					
IB-3 Integrated DT/OT			1Q-3Q					
ALQ-214 FRP 1 (Production IB-2)	3Q							
ALQ-214 FRP 2 (Production IB-2)		1Q						
ALQ-214 FRP 3 (Production IB-2)			1Q					
ALQ-214 FRP 4 (Production IB-2)				1Q				
ALQ-214 FRP 5 (Production IB-2)								
ALQ-214 FRP 6 (Production IB-2)								
ALQ-214 FRP 7 (Production IB-2)								
ALQ-214 FRP 8 (Production IB-2)								
Navy Only Requirement FOTD LRIP 2 (IB-3)			2Q					
Navy Only Requirement FOTD FRP 1 (Production - IB-3)				1Q				
Navy Only Requirement FOTD FRP 2 (Production - IB-3)								
Navy Only Requirement FOTD FRP 3 (Production - IB-3)								
Navy Only Requirement FOTD FRP 4 (Production - IB-3)								
Navy Only Requirement FOTD FRP 5 (Production - IB-3)								
ALQ-214 LRIP 2 DELIVERIES	2Q							
ALQ-214 LRIP 3 DELIVERIES		2Q						
ALQ-214 FRP 1 DELIVERIES			1Q					
ALQ-214 FRP 2 DELIVERIES				1Q				
ALQ-214 FRP 3 DELIVERIES								
ALQ-214 FRP 4 DELIVERIES								
ALQ-214 FRP 5 DELIVERIES								
ALQ-214 FRP 6 DELIVERIES								
Navy Only Requirement FOTD LRIP 2 DELIVERIES				2Q				
Navy Only FOTD FRP 1 Deliveries								
Navy Only FOTD FRP 2 Deliveries								
Navy Only FOTD FRP 3 Deliveries								
Navy Only FOTD FRP 4 Deliveries								

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 20 of 38)

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CLASSIFICATION: UNCLASSIFIED								
EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604270N Electronic Warfare Development					PROJECT NUMBER AND NAME R2260 Specific Emitter ID		
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	0.756	0.708	0.726	0.675	0.745	0.666	0.681	0.696
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>This project supports systems development and collection of Specific Emitter Identification (SEI) information from National Technical Means (NTM) to track commercial ships over 200 gross registered tons world-wide. Research and development will cover improvements and enhancements to Electronic Intelligence technology. This will include improved/next generation SEI technology for miniaturization and automation of hardware, national collection systems, signal processing and analysis, and de-interleaving of signals. Propagation in a multi-path signal environment will also be assessed. All work on this project will be undertaken in pursuit of goals stated by the Office of Naval Intelligence and the National Security Agency in support of the Worldwide Ship Tracking Program.</p>								

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 21 of 38)

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CLASSIFICATION: UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604270N Electronic Warfare Development	PROJECT NUMBER AND NAME R2260 Specific Emitter ID		

(U) B. Accomplishments/Planned Program

	FY 04	FY 05	FY 06	FY 07
Sensor Fusion	0.200	0.100	0.200	0.275
RDT&E Articles Quantity				

This effort supports systems development and information fusion of improved Specific Emitter Identification (SEI) technology for automation of hardware, national collection systems, signal processing and analysis, and de-interleaving of signals. Work was performed on increasing sensor fusion and automation to reduce staffing and support remote access and control capability. In FY04 this effort supported the deployment and real world tuning of highly automated SEI systems with sensor fusion, achieving goals of increased performance and reduced staffing. In FY05 - FY07 this effort supports the fusion, development, and deployment for new sources of sensor data with the SEI technology to enable more robust signal detection and tracking.

	FY 04	FY 05	FY 06	FY 07
System Automation	0.342	0.308	0.226	0.200
RDT&E Articles Quantity				

This effort supports development of a autonomous surveillance system capable of providing emitter signal information to a central location. In FY04 - FY07, this effort supports the deployment and real world tuning of an autonomous emitter signal surveillance system, monitor base station, and remote site operations.

	FY 04	FY 05	FY 06	FY 07
Technology Refresh & Communication Enhancement	0.214	0.300	0.300	0.200
RDT&E Articles Quantity				

This effort improves SEI system performance, real-time communication and tactical use of SEI which will be expanded with next generation SEI technology. In FY04, this effort developed and demonstrated enhanced system support for real-time communication and tactical use of SEI and other signal data. In FY05, this effort will improve and deploy enhanced system support for real-time communication and tactical use of SEI and other signal data. In FY06-FY07 next generation SEI hardware will be available for integration into deployed SEI systems.

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CLASSIFICATION: UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																														
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604270N Electronic Warfare Development	PROJECT NUMBER AND NAME R2260 Specific Emitter ID																																															
<p>(U) C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 35%;">(U) Funding:</th> <th style="text-align: right; width: 12.5%;">FY 2004</th> <th style="text-align: right; width: 12.5%;">FY 2005</th> <th style="text-align: right; width: 12.5%;">FY 2006</th> <th style="text-align: right; width: 12.5%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>Previous President's Budget:</td> <td style="text-align: right;">0.756</td> <td style="text-align: right;">0.723</td> <td style="text-align: right;">0.725</td> <td style="text-align: right;">0.673</td> </tr> <tr> <td>Current BES/President's Budget</td> <td style="text-align: right;">0.756</td> <td style="text-align: right;">0.708</td> <td style="text-align: right;">0.726</td> <td style="text-align: right;">0.675</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">-0.015</td> <td style="text-align: right; border-top: 1px solid black;">0.001</td> <td style="text-align: right; border-top: 1px solid black;">0.002</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td>Congressional undistributed reductions</td> <td></td> <td style="text-align: right;">-0.014</td> <td></td> <td></td> </tr> <tr> <td>Other adjustments</td> <td></td> <td style="text-align: right;">-0.001</td> <td></td> <td></td> </tr> <tr> <td>Economic Assumptions</td> <td style="text-align: right;">0.000</td> <td></td> <td style="text-align: right;">0.001</td> <td style="text-align: right;">0.002</td> </tr> <tr> <td>Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">-0.015</td> <td style="text-align: right; border-top: 1px solid black;">0.001</td> <td style="text-align: right; border-top: 1px solid black;">0.002</td> </tr> </tbody> </table> <p>(U) Schedule: Not Applicable</p> <p>(U) Technical: Not Applicable</p>					(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007	Previous President's Budget:	0.756	0.723	0.725	0.673	Current BES/President's Budget	0.756	0.708	0.726	0.675	Total Adjustments	0.000	-0.015	0.001	0.002	Summary of Adjustments					Congressional undistributed reductions		-0.014			Other adjustments		-0.001			Economic Assumptions	0.000		0.001	0.002	Subtotal	0.000	-0.015	0.001	0.002
(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007																																													
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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604270N Electronic Warfare Development	PROJECT NUMBER AND NAME R2260 Specific Emitter ID
<p>(U) D. OTHER PROGRAM FUNDING SUMMARY:</p> <p>Not Applicable</p> <p>(U) E. ACQUISITION STRATEGY:</p> <p>This is a non-acquisition Research and Development Program.</p>		

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Exhibit R-2a, RDTEEN Project Justification
(Exhibit R-2a, page 24 of 38)

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* Not required for Budget Activities 1, 2, 3, and 6

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604270N Electronic Warfare Development			PROJECT NUMBER AND NAME Z1742 EW Technical Development			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	0.812	0.875	0.948	1.147	1.168	1.189	1.211	1.232
RDT&E Articles Qty								
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: <p>Skunkworks is a CNO N614 funded effort that focuses on the quick reaction prototyping of tactical information warfare systems. This program directly addresses various fleet requirements, airborne and surface cryptologic operational requirements documents and the joint requirements oversight council mission needs statement for information warfare systems and capabilities across the spectrum of conflict. The projects developed under this program are designed to deny, degrade, disrupt or destroy enemy command and control communications. These systems provide information dominance to friendly forces during conflict, which is necessary for successful mission accomplishment.</p>								

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604270N Electronic Warfare Development	PROJECT NUMBER AND NAME Z1742 EW Technical Development																	
B. Accomplishments/Planned Program (Cont.)																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.400</td><td style="text-align: center;">0.431</td><td style="text-align: center;">0.435</td><td style="text-align: center;">0.445</td></tr><tr><td>RDT&E Articles Quantity</td><td style="text-align: center;">N/A</td><td style="text-align: center;">N/A</td><td style="text-align: center;">N/A</td><td style="text-align: center;">N/A</td></tr></tbody></table> <div style="border: 1px solid black; height: 60px; margin-top: 5px; padding: 5px;">-(U) Continue airborne IW jammer development, test and evaluation.</div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.400	0.431	0.435	0.445	RDT&E Articles Quantity	N/A	N/A	N/A	N/A
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.400	0.431	0.435	0.445															
RDT&E Articles Quantity	N/A	N/A	N/A	N/A															
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.223</td><td style="text-align: center;">0.248</td></tr><tr><td>RDT&E Articles Quantity</td><td style="text-align: center;">N/A</td><td style="text-align: center;">N/A</td><td style="text-align: center;">N/A</td><td style="text-align: center;">N/A</td></tr></tbody></table> <div style="border: 1px solid black; height: 60px; margin-top: 5px; padding: 5px;">-(U) Continue unmanned aerial vehicle IW payload test and development.</div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.223	0.248	RDT&E Articles Quantity	N/A	N/A	N/A	N/A
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.223	0.248															
RDT&E Articles Quantity	N/A	N/A	N/A	N/A															
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.412</td><td style="text-align: center;">0.444</td><td style="text-align: center;">0.290</td><td style="text-align: center;">0.454</td></tr><tr><td>RDT&E Articles Quantity</td><td style="text-align: center;">N/A</td><td style="text-align: center;">N/A</td><td style="text-align: center;">N/A</td><td style="text-align: center;">N/A</td></tr></tbody></table> <div style="border: 1px solid black; height: 60px; margin-top: 5px; padding: 5px;">-(U) Continue aircraft IW system design.</div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.412	0.444	0.290	0.454	RDT&E Articles Quantity	N/A	N/A	N/A	N/A
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.412	0.444	0.290	0.454															
RDT&E Articles Quantity	N/A	N/A	N/A	N/A															

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604270N Electronic Warfare Development	PROJECT NUMBER AND NAME Z1742 EW Technical Development		

C. PROGRAM CHANGE SUMMARY:

	FY 04	FY 05	FY 06	FY 07
Funding:				
Previous President's Budget:	0.823	0.911	0.941	1.137
Current BES/President's Budget	0.812	0.875	0.948	1.147
Total Adjustments	-0.011	-0.036	0.007	0.010
Summary of Adjustments				
Congressional Adj. Sect 8105: Reduce IT Dev Cost Growth		-0.022		
Congressional Adj. Sect 8122: Mgmt Improvements Savings		-0.003		
Congressional Adj. Sect 8131 : Non-Statutory Funding Reduction		-0.005		
SBIR/STTR Assessment	-0.010			
OSD				
PBD 604 Inflation Savings	-0.001	-0.001	-0.001	-0.004
Economic Assumptions		-0.005	0.008	0.014
Reprogrammings				
Congressional increases				
Subtotal	-0.011	-0.036	0.007	0.010

Schedule:

Not Applicable

Technical:

Not Applicable

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604270N Electronic Warfare Development			PROJECT NUMBER AND NAME Z1742 EW Technical Development					
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
Not Applicable										
E. ACQUISITION STRATEGY: *										
- Not Applicable										

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 31 of 38)

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 32 of 38)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604270N Electronic Warfare Development			Z1742 EW Technical Development						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various	1.110	0.200	Var	0.200	Var	0.200	Var	0.600	2.310	
Operational Test & Evaluation											0.000	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fee												
											0.000	
Subtotal T&E			1.110	0.200		0.200		0.200		0.600	2.310	
Remarks:												
Contractor Engineering Support	Various	Various	0.558	0.114	Various	0.127	Various	0.135	Various	0.390	1.324	
Government Engineering Support	Various	Various	0.515	0.111	Various	0.115	Various	0.120	Various	0.480	1.341	
Program Management Support											0.000	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			1.073	0.225		0.242		0.255		0.870	2.665	
Remarks:												
Total Cost			4.458	0.875		0.948		1.147		4.781	12.209	
Remarks:												

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 34 of 38)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604270N EW DEVELOPMENT				PROJECT NUMBER AND NAME 9499 IR SIGNATURE REDUCTION			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		1.288						
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

IR Signature Reduction to Mitigate Terrorist Missile Threat. FY 2005 Congressional Add.

The proliferation of fourth generation shoulder-launched infrared (IR) sensing missiles provides one of the greatest challenges to national security at the present time. The Navy is looking for ways to reduce the threat of IR missiles to aircraft from sources such as MANPADS (Man Portable Air Defense Weapon Systems), especially against those slow climbing aircraft that contribute to the transportation of armed forces around the world. The resulting product of this research could give the military a more secure and dependable capability to guard against this threat.

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 35 of 38)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604270N EW DEVELOPMENT	PROJECT NUMBER AND NAME 9499 IR SIGNATURE REDUCTION		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	1.288	0.000	0.000
RDT&E Articles Quantity				
<p>This FY 2005 Congressional add funding will be used to focus on research and lab equipment necessary to develop a laboratory for working with Infrared (IR) signature reduction. Crane Naval Surface Warfare Center, along with Purdue University, will provide the technology evaluation and testing for the research carried out to counteract these threats. Research will include candidate design assessments against various current and coming-in-service IR missiles, including the effect of various atmospheric condition and clutter background.</p>				

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604270N EW DEVELOPMENT	PROJECT NUMBER AND NAME 9499 IR SIGNATURE REDUCTION

C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
Funding:				
Previous President's Budget:		0.000		
Current BES/President's Budget		1.288		
Total Adjustments	0.000	1.288	0.000	0.000
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.012		
Congressional rescissions				
SBIR/STTR Transfer				
Economic Assumptions				
Reprogrammings				
Congressional increases		1.300		
Subtotal	0.000	1.288	0.000	0.000

Schedule: Not Applicable.

Technical: Not Applicable.

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE:
		February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N/BA-5	0604270N EW DEVELOPMENT	9499 IR SIGNATURE REDUCTION
<p>D. OTHER PROGRAM FUNDING SUMMARY:</p> <p>Not Applicable</p> <p>E. ACQUISITION STRATEGY:</p> <p>Not Applicable.</p>		

CLASSIFICATION:

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:
Marine Helicopter Squadron One (HMX-1) is required to provide safe and timely transportation for the President and Vice President of the United States, heads of state and others as directed by the White House Military Office (WHMO). The global nature of these commitments requires HMX-1 aircraft to deploy worldwide and operate in varying environmental and climatic conditions without mission degradation. Currently two Type, Model, Series (TMS) aircraft are used by HMX-1 for the Presidential support mission – the VH-3D and the VH-60N. Numerous modifications and improvements have been incorporated over the past several years to both aircraft commensurate with emerging technologies and White House requirements. In order for the VXX to be available to assume the Presidential vertical lift mission by 2008, three test article aircraft, five pilot production aircraft, system design and development efforts, maintenance trainers, and associated logistics must be initiated by 2005. In addition, 3 Low-Rate Initial Production aircraft will be procured starting in FY2008. These aircraft will provide production representative articles to complete operational testing. The VHXX program provides the replacement for the VH-3D Presidential helicopter. The following areas need to be explored: Nuclear Effects, E3 /TEMPEST certification requirements, Survivability (Vulnerability/Susceptibility), Facilities upgrade/modifications- Source Selection, Environmental Impact, Security, Cost Estimation, Requirements Analysis, Functional Analysis and Allocation, Risk Management, Crew System/Human Systems Integration (HSI), and Logistics Support Analysis. Contractor efforts are expected to include System Design and Development work, test article aircraft, and pilot production aircraft.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604273N VHXX EXECUTIVE HELO DEVELOPMENT			PROJECT NUMBER AND NAME 3058 VHXX REPLACEMENT			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	189.713	550.853	935.932	560.631	618.624	371.282	219.781	84.576
RDT&E Articles Qty		3	5		3			
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Marine Helicopter Squadron One (HMX-1) is required to provide safe and timely transportation for the President and Vice President of the United States, heads of state and others as directed by the White House Military Office (WHMO). The global nature of these commitments requires HMX-1 aircraft to deploy worldwide and operate in varying environmental and climatic conditions without mission degradation. Currently two Type, Model, Series (TMS) aircraft are used by HMX-1 for the Presidential support mission – the VH-3D and the VH-60N. Numerous modifications and improvements have been incorporated over the past several years to both aircraft commensurate with emerging technologies and White House requirements. In order for the VXX to be available to assume the Presidential vertical lift mission by 2008, three test article aircraft, five pilot production aircraft, system design and development efforts, maintenance trainers, and associated logistics must be initiated by 2005. In addition, 3 Low-Rate Initial Production aircraft will be procured starting in FY2008. These aircraft will provide production representative articles to complete operational testing. The VHXX program provides the replacement for the VH-3D Presidential helicopter. The following areas need to be explored: Nuclear Effects, E3 /TEMPEST certification requirements, Survivability (Vulnerability/Susceptibility), Facilities upgrade/modifications- Source Selection, Environmental Impact, Security, Cost Estimation, Requirements Analysis, Functional Analysis and Allocation, Risk Management, Crew System/Human Systems Integration (HSI), and Logistics Support Analysis. Contractor efforts are expected to include System Design and Development work, test article aircraft, and pilot production aircraft.								
*Project Cost includes both PE 0604273N and 0604212N								

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604273N VHXX EXECUTIVE HELO DEVELOPMENT	PROJECT NUMBER AND NAME 3058 VHXX REPLACEMENT																	
B. Accomplishments/Planned Program																			
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RDT&E Articles Quantity																			
A Requirements Analysis and Functional Analysis and Allocation was contracted for VHXX Replacement utilizing an existing NAVAIR contractual vehicle.																			
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Accomplishments/Effort/Subtotal Cost		498.353	880.328	496.325															
RDT&E Articles Quantity		3	5																
Contract award for initial test article aircraft, long-lead pilot production aircraft efforts, System Design and Development (SDD) work efforts, low-rate initial production, and support of training systems efforts including but not limited to, aircrew / pilot trainers, training curriculum, and requisite training support.																			
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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604273N VHXX EXECUTIVE HELO DEVELOPMENT	PROJECT NUMBER AND NAME 3058 VHXX REPLACEMENT																	
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EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-5	0604273N VHXX EXECUTIVE HELO DEVELOPMENT	3058 VHXX REPLACEMENT	

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2004	FY 2005	FY 2006	FY 2007
Previous President's Budget:	195.233	777.449	692.128	502.495
Current BES/President's Budget	189.713	550.853	935.932	560.631
Total Adjustments	-5.520	-226.596	243.804	58.136

Summary of Adjustments

Congressional program reductions		-220.000		
Congressional undistributed reductions		-5.459		
Congressional rescissions				
SBIR/STTR Transfer	-5.164			
Other adjustments		-1.137	237.069	51.281
Economic Assumptions	-0.181		6.735	6.855
Reprogrammings	-0.175			
Congressional increases				
Subtotal	-5.520	-226.596	243.804	58.136

Schedule:

The Department of the Navy decided to extend source selection efforts in order to better understand each offeror's proposal. PMA-274 senior leadership developed a 'way forward' for the VH-XX program to accomplish essential risk reduction efforts with FY04 funding due to the associated acquisition strategy changes that shifted SDD tasks into FY05. This 'way forward' was briefed to and approved by ASN(RDA) on 21 April 2004, and subsequently briefed to and approved by USD(AT&L) on 26 April 2004. The program has awarded expanded risk reduction efforts in light of the DoN decision.

Technical:

Not Applicable

*Program Change Summary Includes PE 0604273N and 0604212N

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EXHIBIT R-2a, RDT&E Project Justification									DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604273N VHXX EXECUTIVE HELO DEVELOPMENT				PROJECT NUMBER AND NAME 3058 VHXX REPLACEMENT			
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
BLI 045500; V-XX	0	0	0	0	57.865	421.019	352.423	330.892	967.421	2129.62
 E. ACQUISITION STRATEGY:										
VH-XX has been formally designated as an ACAT ID program. An Analysis of Alternatives was completed in FY03 to help determine which competing technology was the most appropriate to satisfy the Executive Vertical Lift requirement. Concept design studies have been completed. System Design and Development (SDD) contract was awarded to Lockheed Martin Corporation on January 28, 2005.										

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Exhibit R-3 Cost Analysis (page 1)									DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RD&E, N / BA-5			PROGRAM ELEMENT 0604273N VHXX EXECUTIVE HELO DEVELOPMENT			PROJECT NUMBER AND NAME 3058 VHXX REPLACEMENT						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C-CPAF	LOCKHEED MARTIN, NY		492.591	01/05	873.832	01/06	492.832	01/07	Continuing	Continuing	
Systems Engineering	VARIOUS	Various		5.762	01/05	6.496	01/06	3.493	01/07	Continuing	Continuing	
Systems Engineering	WX	NAWCAD Pax River, MD	2.349								2.349	
Subtotal Product Development			2.349	498.353		880.328		496.325		Continuing	Continuing	
Remarks:												
Develop Support Equip	VARIOUS	Various		3.012	01/05	4.100	01/06	11.300	01/07	Continuing	Continuing	
Integrated Logistics Sup	VARIOUS	Various	1.565	4.282	01/05	7.700	01/06	11.500	01/07	Continuing	Continuing	
Studies & Analyses	C-FFP	LOCKHEED MARTIN, NY	87.423							0.000	87.423	87.423
Studies & Analyses	C-FFP	SIKORSKY AIRCRAFT, CT	87.422							0.000	87.422	87.422
Studies & Analyses	WX	NAWCAD Pax River, MD	2.180								2.180	
Subtotal Support			178.590	7.294		11.800		22.800		Continuing	Continuing	
Remarks:												

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-5				PROGRAM ELEMENT 0604273N VHXX EXECUTIVE HELO DEVELOPMENT			PROJECT NUMBER AND NAME H3058 VHXX REPLACEMENT					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Dev Test & Eval	TBD	Various				18.600	01/06	24.800	01/07	Continuing	Continuing	
Dev Test & Eval	WX	NAWCAD Pax River, MD	0.937	18.300	01/05					Continuing	Continuing	
Live Fire Test & Eval	WX	NAWCWD CHINA LAKE, CA	0.490	1.000	01/05	1.000	01/06	1.000	01/07	Continuing	Continuing	
Subtotal T&E			1.427	19.300		19.600		25.800		Continuing	Continuing	
Remarks:												
Contractor Eng Sup	VARIOUS	Various	4.164	2.038	11/04	2.541	11/05	1.367	11/06	Continuing	Continuing	
Government Eng Sup	VARIOUS	Various	0.096	2.395	11/04	1.950	11/05	1.452	11/06	Continuing	Continuing	
Government Eng Sup	WX	NAWCAD Pax River, MD	11.334	13.571	11/04	11.049	11/05	8.228	11/06	Continuing	Continuing	
Program Mgmt Sup	VARIOUS	Various	18.948	7.380	11/04	8.076	11/05	4.343	11/06	Continuing	Continuing	
Travel	VARIOUS	NAWCAD Pax River, MD	0.357	0.522	11/04	0.588	11/05	0.316	11/06	Continuing	Continuing	
Subtotal Management			34.899	25.906		24.204		15.706		Continuing	Continuing	
Remarks:												
Total Cost			217.265	550.853		935.932		560.631		Continuing	Continuing	
Remarks:												

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 8 of 10)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile

DATE:

February 2005

APPROPRIATION/BUDGET ACTIVITY

PROGRAM ELEMENT NUMBER AND NAME

PROJECT NUMBER AND NAME

RDT&E, N / BA-5

0604273N, VH-XX EXEC HELO DEVELOPMENT

3058, VH-XX HELO REPLACEMENT

Fiscal Year	FY 2004				FY 2005				FY 2006				FY 2007				FY 2008				FY 2009				FY 2010				FY 2011																															
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4																												
Acquisition Milestones						◇	MS B/C									◇	MS C						☆	IOC Inc 1				FRP DR	◇	IOC Inc 2		☆																												
RDT&E Contract Awards						△	SDD										△	LRIP 1																																										
Procurement Contract Awards																		△	LRIP 2 AAC		△	LRIP 2 Full Funding																																						
Concept Design / Pre-SDD	Pre-SDD																																																											
Design & Development					Increment 1																												Increment 2																											
3 Test Aircraft					Test Articles																																																							
Deliveries (3 Test Aircraft)																	△	Test Aircraft Delivery																																										
Pilot Production (5 a/c)																																																												
Deliveries (Pilot Production)																						△	Pilot Production Deliveries																																					
Test & Evaluation Milestones																																																												
Integrated Test Program Increment 1					Integrated Test																												OT-C1																											
Integrated Test Program Increment 2																																																												
Production Milestones																																																												
LRIP 1 (3 aircraft)																																																												
Deliveries (LRIP 1)																																																												
LRIP 2 (4 aircraft)																																																												
Deliveries (LRIP 2)																																																												
Trainers																																																												

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Exhibit R-2, RDTEN Budget Item Justification

(Exhibit R-2, page 9 of 10)

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&BA-5	PROGRAM ELEMENT 0604273N, VH-XX EXEC HELO DEVELOPMENT				PROJECT NUMBER AND NAME 3058, VH-XX HELO REPLACEMENT			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Concept Design/Pre-SDD	1Q-4Q	1Q						
Milestone B/C (MSB/C)		2Q						
SDD Contract Award		2Q						
Quality Design and Build (Test Articles)		2Q-4Q	1Q-4Q	1Q-3Q				
Pilot Production			1Q-4Q	1Q-4Q				
Integrated Test Program (Increment 1)		2Q-4Q	1Q-4Q	1Q-4Q				
Milestone C (MSC)				4Q				
Low-Rate Initial Production I (LRIP I) Contract Award								
Low-Rate Initial Production I								
Low-Rate Initial Production II AAC Contract Award								
Pilot / Maintenance Trainers								
Low-Rate Initial Production II Full Funding Contract Award								
Operational Testing								
Integrated Test Program (Increment II)								
Low-Rate Initial Production II								
IOC (Increment 1)								
Low-Rate Initial Production I Delivery								
OPEVAL								
Low-Rate Initial Production II Delivery								
Full Rate Production (FRP) Decision								
IOC (Increment 2)								

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EXHIBIT R-2, RDT&E Budget Item Justification					DATE:		February 2005		
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE					
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /				PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
Total Cost	\$ 66.6	\$ 79.5	\$ 250.8	\$ 258.2	\$ 111.6	\$ 65.5	\$ 2.7	\$ 1.8	
3073 Airborne Maritime/Fixed JTRS (AMF JTRS)	\$ 64.9	\$ 55.4	\$ 170.6	\$ 159.1	\$ 79.3	\$ 54.5	\$ 2.7	\$ 1.8	
3020 Multifunctional Information Distribution System (MIDS JTRS)	\$ -	\$ 22.1	\$ 80.2	\$ 99.1	\$ 32.3	\$ 11.0	\$ -	\$ -	
9378 Digital Modular Radio (DMR)	\$ -	\$ 1.9	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
9375 Super Conductor Micro-Electronics	\$ 1.7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>In November 2003, the Navy & Air Force Service Acquisition Executives directed the merger of Clusters 3 (Navy) and 4 (Air Force) to establish a combined JTRS Cluster, renamed AMF JTRS, Airborne Maritime Fixed. On January 21, 2004, USD (AT&L) signed an Acquisition Decision Memorandum (ADM) acknowledging the combination of the two clusters, as well as authorizing the release of the Pre-System Development and Demonstration (SDD) Request for Proposal (RFP) for the AMF JTRS program. Funding represents Navy's portion of AMF JTRS.</p> <p>The Airborne Maritime/Fixed JTRS (AMF JTRS) will be designed to support communications readiness and mission success by providing military commanders with the ability to command, control and communicate with their forces via secure voice, video, and data media forms during all aspects of military operations. The AMF JTRS will be a hardware configurable and software definable radio (SDR) system that provides increased interoperability, flexibility and adaptability to support the varied mission requirements of the warfighter. The AMF JTRS system will provide radio sets that are software definable, multi-band, multi-mode capable, secure, network-centric, and able to provide simultaneous voice, data, and video communications over multiple frequency bands between 2 MegaHertz (MHz) and 2 GigaHertz (GHz), as well as scalable to meet the needs of multiple platforms. As a requirement, the AMF JTRS will operate with legacy equipment and waveforms currently used by civilian and military airborne, surface, subsurface, and fixed station platforms as well as incorporate new waveforms and CEAs as they are developed. As a result of this fielding, legacy radios and cryptographic devices will eventually be phased out through the JTRS implementation effort, which is a planned migration to transition to the JTRS capability. The Air Force Electronic Systems Center (AF/ESC) and the Program Executive Office, Command, Control, Communications, Computers, Intelligence, and Space (PEO C4I & Space) will fulfill the AMF JTRS requirements in a phased approach. Each phase will build on the technological achievements of its predecessor, while at the same time providing expanded capabilities (in both hardware and software). AMF JTRS will incorporate the following key concepts into its design: commonality across JTRS clusters, transformational communications, networking, automation and control, information gateways, and quality of service. The AMF JTRS procurement specifically involves the development of Joint Tactical Radio (JTR) Set and the integration of the Software Communication Architecture (SCA) Compliant waveforms and Cryptographic Equipment Applications (CEA) provided by the JTRS Joint Program Office (JPO). The procurement also funds development of the necessary equipment for these capabilities to be integrated into the Maritime and Fixed Station platforms through the Service Integration Kits (SIK). The JTR Set is planned to consist of a JTR (receiver/exciter/modem), Cryptographic Sub-System (CS/S), and ancillaries, both common and service unique. Ancillaries consist of items, such as: power amplifiers to meet the 2 MHz to 2 GHz frequency range, baseband (voice, video and data) Input/Output (I/O), filters, Radio Frequency (RF) networking services, and basic Human Machine Interface (HMI) and control. The AMF JTRS SIKs are planned to consist of RF legacy interface capability, service site-specific power amplifiers (e.g. High Frequency (HF) broadband amplifiers for Navy ships and 10 KW for U.S. Air Force fixed stations), couplers/multipliers, antennae, baseband networking services, dynamic control, automatic RF switching, co-site mitigation devices, interference mitigation devices, and other Service-specific installation requirements. The combination of the JTR Set and the various SIKs will allow for a modular/scalable solution to meet the Joint Services' various AMF JTRS implementation requirements.</p> <p>Joint Task Force Wide Area Relay Network Program Enhancement (JTF WARNET) - This program is an NRL initiative that has grown from an Advanced Concept Technology Demonstration (ACTD). This program supports JTRS CONOPS & Tactics, Techniques and Procedures (TTP) development, incorporates Intra-Battle Group Wireless Network (IBGWN) capabilities, supports ADNS Integration and supports Joint Translator Forwarder (JTF.)</p> <p>The MIDS-LVT is a jam-resistant, secure, digital (voice and data) information distribution system, enabling rapid integrated communications, navigation and identification for tactical and command and control operations. The technical objective of the MIDS JTRS program is to transform the current MIDS-LVT into a four-channel, Software Communications Architecture (SCA) compliant JTRS, while maintaining current Link-16 and tactical air navigation system (TACAN) functionality. MIDS gathers data from multiple sources and displays a digital view of the battlefield. The MIDS JTRS is designed to be plug-and-play interchangeable for U.S. Navy and U.S. Air Force platforms that use MIDS-LVT, while accommodating future technologies and capabilities. Improvements such as Link-16 enhanced throughput, Link-16 frequency re-mapping, and programmable crypto will also be realized in the MIDS JTRS design. In addition to the Link-16 and TACAN functionality, MIDS JTRS includes three 2 MHz to 2 GHz programmable channels that allow the warfighter to use multiple waveforms currently in development with the JTRS JPO. Total program requirements include: Terminal development, F/A-18 Level 0 integration, software hosting (Operating Environment/JTRS JPO Waveforms), Common Link Integration Processing (CLIP) Increment 1 embedding and production transition. In FY04, MIDS JTRS will be executed under project unit 3073. Beginning in FY05, MIDS JTRS funding transferred to a new project unit number, 3020.</p> <p>The Digital Modular Radio (DMR) provides improvements for fleet radio requirements in the HF, VHF, and UHF frequency band. The DMR replaces and will be interoperable and backwards compatible with legacy systems. The DMR is a digital, modular, software programmable, multi-channel, multi-function and multi-band (2MHz-2 GHz) radio system.</p> <p>Super Conductor Micro-Electronics project - Funding will assist in the development of an All Digital Transceiver (ADT), which will improve a range of defense missions including tactical radio, satellite communications, signal intelligence, electronic warfare, and radar systems. This funding will also help to continue the Superconductor Micro-Electronics (SME) currently being developed in the Challenge Program-funded ONR SBIR phase III project, the All Digital Receiver (ADR), towards the development of an All Digital Transceiver.</p> <p>JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under ENGINEERING AND MANUFACTURING DEVELOPMENT because it encompasses engineering and manufacturing development of new end-items prior to production approval decision.</p>									

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EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROJECT NUMBER AND NAME 3073 Airborne Maritime/Fixed Joint Tactical Radio System (AMF JTRS)					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total Project Cost	\$ 64.925	\$ 55.389	\$ 170.590	\$ 159.070	\$ 79.250	\$ 54.500	\$ 2.679	\$ 1.790
3073 Airborne Maritime/Fixed JTRS (AMF JTRS)	\$ 43.042	\$ 55.389	\$ 162.790	\$ 159.070	\$ 79.250	\$ 54.500	\$ 2.679	\$ 1.790
3073 Joint Task Force Wide Area Relay Network (JTF WARNET)	\$ -	\$ -	\$ 7.800	\$ -	\$ -	\$ -	\$ -	\$ -
3073 Multifunctional Information Distribution System (MIDS JTRS)	\$ 13.101	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3073 Digital Modular Radio (DMR)	\$ 8.782	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
<p>In November 2003, the Navy & Air Force Service Acquisition Executives directed the merger of Clusters 3 (Navy) and 4 (Air Force) to establish a combined JTRS Cluster, renamed AMF JTRS, Airborne Maritime Fixed. On January 21, 2004, USD (AT&L) signed an Acquisition Decision Memorandum (ADM) acknowledging the combination of the two clusters, as well as authorizing the release of the Pre-System Development and Demonstration (SDD) Request for Proposal (RFP) for the AMF JTRS program. Funding represents Navy's portion of AMF JTRS.</p> <p>The Airborne Maritime/Fixed JTRS (AMF JTRS) will be designed to support communications readiness and mission success by providing military commanders with the ability to command, control and communicate with their forces via secure voice, video, and data media forms during all aspects of military operations. The AMF JTRS will be a hardware configurable and software definable radio (SDR) system that provides increased interoperability, flexibility and adaptability to support the varied mission requirements of the warfighter. The AMF JTRS system will provide radio sets that are software definable, multi-band, multi-mode capable, secure, network-centric, and able to provide simultaneous voice, data, and video communications over multiple frequency bands between 2 MegaHertz (MHz) and 2 GigaHertz (GHz), as well as scalable to meet the needs of multiple platforms. As a requirement, the AMF JTRS will operate with legacy equipment and waveforms currently used by civilian and military airborne, surface, subsurface, and fixed station platforms as well as incorporate new waveforms and CEAs as they are developed. As a result of this fielding, legacy radios and cryptographic devices will eventually be phased out through the JTRS implementation effort, which is a planned migration to transition to the JTRS capability. The Air Force Electronic Systems Center (AF/ESC) and the Program Executive Office, Command, Control, Communications, Computers, Intelligence, and Space (PEO C4I & Space) will fulfill the AMF JTRS requirements in a phased approach. Each phase will build on the technological achievements of its predecessor, while at the same time providing expanded capabilities (in both hardware and software). AMF JTRS will incorporate the following key concepts into its design: commonality across JTRS clusters, transformational communications, networking, automation and control, information gateways, and quality of service. The AMF JTRS procurement specifically involves the development of Joint Tactical Radio (JTR) Set and the integration of the Software Communication Architecture (SCA) Compliant waveforms and Cryptographic Equipment Applications (CEA) provided by the JTRS Joint Program Office (JPO). The procurement also funds development of the necessary equipment for these capabilities to be integrated into the Maritime and Fixed Station platforms through the Service Integration Kits (SIK). The JTR Set is planned to consist of a JTR (receiver/exciter/modem), Cryptographic Sub-System (CS/S), and ancillaries, both common and service unique. Ancillaries consist of items, such as: power amplifiers to meet the 2 MHz to 2 GHz frequency range, baseband (voice, video and data) Input/Output (I/O), filters, Radio Frequency (RF) networking services, and basic Human Machine Interface (HMI) and control. The AMF JTRS SIKs are planned to consist of RF legacy interface capability, service site-specific power amplifiers (e.g. High Frequency (HF) broadband amplifiers for Navy ships and 10 KW for U.S. Air Force fixed stations), couplers/multicouplers, antennae, baseband networking services, dynamic control, automatic RF switching, co-site mitigation devices, interference mitigation devices, and other Service-specific installation requirements. The combination of the JTR Set and the various SIKs will allow for a modular/scalable solution to meet the Joint Services' various AMF JTRS implementation requirements.</p> <p>Joint Task Force Wide Area Relay Network Program Enhancement (JTF WARNET) - This program is an NRL initiative that has grown from an Advanced Concept Technology Demonstration (ACTD). This program supports JTRS, CONOPS & Tactics, Techniques and Procedures (TTP) development, incorporates Intra-Battle Group Wireless Network (IBGWN) capabilities, supports ADNS Integration and supports Joint Translator Forwarder (JTF.)</p> <p>The MIDS-LVT is a jam-resistant, secure, digital (voice and data) information distribution system, enabling rapid integrated communications, navigation and identification for tactical and command and control operations. The technical objective of the MIDS JTRS program is to transform the current MIDS-LVT into a four-channel, Software Communications Architecture (SCA) compliant JTRS, while maintaining current Link-16 and tactical air navigation system (TACAN) functionality. MIDS gathers data from multiple sources and displays a digital view of the battlefield. The MIDS JTRS is designed to be plug-and-play interchangeable for U.S. Navy and U.S. Air Force platforms that use MIDS-LVT, while accommodating future technologies and capabilities. Improvements such as Link-16 enhanced throughput, Link-16 frequency re-mapping, and programmable crypto will also be realized in the MIDS JTRS design. In addition to the Link-16 and TACAN functionality, MIDS JTRS includes three 2 MHz to 2 GHz programmable channels that allow the warfighter to use multiple waveforms currently in development with the JTRS JPO. Total program requirements include: Terminal development, F/A-18 Level 0 integration, software hosting (Operating Environment/JTRS JPO Waveforms), Common Link Integration Processing (CLIP) Increment 1 embedding and production transition. In FY04, MIDS JTRS will be executed under project unit 3073. Beginning in FY05, MIDS JTRS funding transferred to a new project unit number, 3020.</p> <p>The Digital Modular Radio (DMR) provides improvements for fleet radio requirements in the HF, VHF, and UHF frequency band. The DMR replaces and will be interoperable and backwards compatible with legacy systems. The DMR is a digital, modular, software programmable, multi-channel, multi-function and multi-band (2MHz-2 GHz) radio system.</p>								

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-5	PROGRAM ELEMENT NUMBER AND NAME PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS	PROJECT NUMBER AND NAME 3073 Airborne Maritime/Fixed Joint Tactical Radio System (AMF JTRS)		

(U) B. Accomplishments/Planned Program

	FY 04	FY 05	FY 06	FY 07
AMF JTRS	43.042	55.389	162.790	159.070
RDT&E Articles Quantity				

FY04: RFP Development, and award contract to begin Pre-System Development & Demonstration (pre-SDD) phase for the AMF JTR system. The new system will be comprised of a JTR Set, which includes the Joint Tactical Radio (JTR) and both common and service-unique ancillaries. The AMF JTRS system also includes the Service Integration Kit (SIK), planned to consist of RF legacy interface capability, service site-specific power amplifiers (e.g. High Frequency (HF) broadband amplifiers for Navy ships and 10 KW for U.S. Air Force fixed stations), couplers/multicouplers, antennae, baseband networking services, dynamic control, automatic RF switching, co-site mitigation devices, interference mitigation devices, and other Service-specific installation requirements. Additionally, the SIK is required for radio room automation of Navy Maritime/Fixed station platforms. Development engineering and management support for associated JTR system components (i.e. JTR, ancillaries, and SIK). Engineering and Management support for JTRS implementation efforts.

FY05: Continue Pre-System Development & Demonstration phase. Begin RFP development for the System Development & Demonstration (SDD) phase for the AMF JTR system, inclusive of the JTR, ancillaries, and SIK. Development engineering and management support for associated JTR system components. Engineering and Management support for JTRS implementation efforts.

FY06: Complete Pre-System Development & Demonstration phase. Contract award for System Development and Demonstration Phase of development for the AMF JTRS system (incl JTR, ancillaries, and SIK) covering 2 MHz - 2GHz that meets JTRS ORD Joint Service Requirements. Development engineering and management support for associated JTR system components. Engineering and Management support for JTRS implementation efforts.

FY07: Continue AMF JTRS System Development and Demonstration Phase for the AMF JTR system (incl JTR, ancillaries, and SIK). Vendor will be required to develop and deliver Engineering Development Models (EDM's) built off common building blocks and scaled to meet the requirements of airborne, maritime and fixed station platforms. Development engineering and management support for associated JTR system components. Engineering and Management support for JTRS implementation efforts.

	FY 04	FY 05	FY 06	FY 07
JTF WARNET	0.000	0.000	7.800	0.000
RDT&E Articles Quantity				

FY06: Joint Task Force Wide Area Relay Network Program Enhancement (JTF WARNET) - This program is an NRL initiative that has grown from an Advanced Concept Technology Demonstration (ACTD). This program supports JTRS, CONOPS & Tactics, Techniques and Procedures (TTP) development, incorporates Intra-Battle Group Wireless Network (IBGWN) capabilities, supports ADNS Integration and supports Joint Translator Forwarder (JTF.)

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																															
APPROPRIATION/BUDGET ACTIVITY RDTE, N /BA-5	PROGRAM ELEMENT NUMBER AND NAME PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEM	PROJECT NUMBER AND NAME 3073 Airborne Maritime/Fixed Joint Tactical Radio System (AMF JTRS)																																
(U) B. Accomplishments/Planned Program																																		
<table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>DMR</td> <td style="text-align: center;">8.782</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 10px; min-height: 100px;"> <p>FY04: Commenced modification of the HF PA DMR (\$1.3M). Commenced modification of the 6.4 upgrade of the DMR (\$6.116M). Test and evaluation (IOT&E) of DMR (\$1.366K).</p> </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>MIDS JTRS</td> <td style="text-align: center;">13.101</td> <td colspan="3">(MIDS JTRS funding transfers to project 3020 beginning FY05.)</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 10px; min-height: 150px;"> <p>FY04: Phase 2A extension was awarded in November 2003 to continue functional and allocated baseline specification development.</p> <p>Note: MIDS JTRS is included in project unit 3073 in FY04, then moves to project unit 3020 starting in FY05.</p> </div>						FY 04	FY 05	FY 06	FY 07	DMR	8.782	0.000	0.000	0.000	RDT&E Articles Quantity						FY 04	FY 05	FY 06	FY 07	MIDS JTRS	13.101	(MIDS JTRS funding transfers to project 3020 beginning FY05.)			RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07																														
DMR	8.782	0.000	0.000	0.000																														
RDT&E Articles Quantity																																		
	FY 04	FY 05	FY 06	FY 07																														
MIDS JTRS	13.101	(MIDS JTRS funding transfers to project 3020 beginning FY05.)																																
RDT&E Articles Quantity																																		

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME			
RDTE, N / BA-5	PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEM	3073 Airborne Maritime/Fixed Joint Tactical Radio System (AMF JTRS)			
(U) C. PROGRAM CHANGE SUMMARY:					
(U) Funding:		FY 2004	FY 2005	FY 2006	FY 2007
FY05 President's Budget		86.871	56.216	177.845	162.896
FY06 President's Budget		64.925	55.389	170.590	159.070
Total Adjustments		-21.946	-0.827	-7.255	-3.826
Summary of Adjustments					
Congressional Adjustments			-0.614		
Congressional Recissions					
Reprogrammings		-19.742			
Programmatic Adjustments			-0.213	-8.52	-5.697
Economic Assumptions			0.000	1.568	1.963
Pricing Adjustments				-0.303	-0.092
SBIR/STTR Transfers		-2.204			
Subtotal		-21.946	-0.827	-7.255	-3.826
 (U) Schedule:					
Pre-System Development & Demonstration contracts awarded to Boeing and Lockheed-Martin on 8 September 2004.					
 (U) Technical:					
Not applicable					

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME			
RDT&E, N / BA-5		PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTE		3073 Airborne Maritime/Fixed Joint Tactical Radio System (AMF JTRS)			

(U) D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete Continuing</u>	<u>Total Cost Continuing</u>
3010 – Ship Tactical Communications - JTRS	0.000	0.000	0.000	0.000	61.856	103.543	160.156	165.491	0	12.521
3010 - Ship Tactical Communications - DMR	6.576	1.541	2.547	1.857	0.000	0.000	0	0	0	

(U) E. ACQUISITION STRATEGY:

	FY 2004	FY 2005	FY2006	FY2007
Program Milestones:				
AMF JTRS	2Q RFP Release 4Q Pre-SDD Contract Award		2Q SDD Contract Award 1Q FY06 MS B	
Digital Modular Radio (DMR)		4Q LRIP V		
T&E Milestones:				
AMF JTRS:				4Q DT/OT

(U) F. MAJOR PERFORMERS:

AMF JTRS: Pre-System Development & Demonstration contracts awarded to Boeing and Lockheed-Martin on 8 September 2004.

(U) G. METRICS:

Earned Value Management (EVM) will be used for metrics reporting and risk management.

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Exhibit R-3 Cost Analysis (page 1)							DATE:		February 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			PE: 0604280N TITLE: JOINT TACTICAL RADIO SYST			3073 Airborne Maritime/Fixed Joint Tactical Radio System (AMF JTRS)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
AMF JTRS Development - JTR System (Pre-SDD)	CPFF	Boeing Anaheim, CA	16.605	21.852						0.000	38.457	
AMF JTRS Development - JTR System (Pre-SDD)	CPFF	Lockheed Manassas, VA	16.605	18.290						0.000	34.895	
AMF JTRS Development - JTR SET (SDD)	CPAF/IF	TBD				106.034	Jan-06	109.192		Continuing	Continuing	
AMF JTRS Development - JTRS SIK (SDD)	CPAF/IF	TBD				40.593	Jan-06	31.743		Continuing	Continuing	
MIDS JTRS HW/SW Development	CPIF	DLS Cedar Rapids, IA	6.182									
MIDS JTRS HW/SW Development	CPIF	ViaSat Inc. Carlsbad, CA	5.881									
H/W: DMR HF Power Amplifier	FFP	GDDS	2.800								2.800	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering - AMF JTRS	WX	SSC-SD	4.493	3.553		3.684		4.064		Continuing	Continuing	
Systems Engineering - AMF JTRS	WX	SSC-CH	5.140	3.004		3.093		3.313		Continuing	Continuing	
Systems Engineering - AMF JTRS	Various	Various	1.072	0.879		0.889		1.162		Continuing	Continuing	
Systems Engineering - JTF WARNET	Various	Various				7.800					7.800	
Systems Engineering - Navy JTRS Implementation	Various	Various		2.207		2.264		2.402		Continuing	Continuing	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			58.777	49.785		164.357		151.876		Continuing	Continuing	
Remarks:												
Development Support											0.000	
Software Dev: DMR Build 6.4	FFP	GDDS	12.861								12.861	
Integrated Logistics Support - AMF JTRS	WX	SSC-CH	1.282	0.660		0.671		0.658		Continuing	Continuing	
Configuration Management										Continuing	Continuing	
Studies & Analyses	Various	Various		0.551		0.575		0.422		Continuing	Continuing	
Technical Data											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			14.143	1.211		1.246		1.080		0.000	17.680	
Remarks:												

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT PE: 0604280N TITLE: JOINT TACTICAL RADIO SYS				PROJECT NUMBER AND NAME 3073 Airborne Maritime/Fixed Joint Tactical Radio System (AMF JTRS)					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation												
Operational Test & Evaluation											0.000	
Live Fire Test & Evaluation											0.000	
DMR Test & Evaluation (FOTE)	WX	SSC-SD	1.724								1.724	
DMR Test & Evaluation (FOTE)	WX	SSC-CH	1.732								1.732	
Test Assets											0.000	
Test Planning/Support - JTRS	Various	Various	0.579	1.457		2.270		3.233		Continuing	Continuing	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			4.035	1.457		2.270		3.233		Continuing	Continuing	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	various	various	7.201	2.936		2.717		2.881		Continuing	Continuing	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			7.201	2.936		2.717		2.881		Continuing	Continuing	
Remarks:												
Total Cost			84.156	55.389		170.590		159.070		Continuing	Continuing	
Remarks:												

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EXHIBIT R4, Schedule Profile																DATE:	February 2005																			
APPROPRIATION/BUDGET A PROGRAM ELEMENT NUMBER AND NAME														PROJECT NUMBER AND NAME																						
RDT&E, N / BA-5				PE: 0604280N TITLE: DMR										3073 DMR																						
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4								
Acquisition (DMR) Milestones				▲ IOC																																
Prototype Phase																																				
System Development																																				
EDM Delivery																																				
Software Delivery	▲ V6.3								△ V6.4																											
Test & Evaluation Milestones																																				
Development Test		▲ JITC 5.3				△ JITC				△ JITC																										
Technical Evaluation																																				
Operational Evaluation																																				
Production Milestones																																				
Full Rate Production Start-up																																				
Low-Rate Initial Production (LRIP) Start-up						△ LRIP V																														
Low-Rate Initial Production (LRIP) Delivery																																				

R-1 SHOPPING LIST - Item No. 100

* Not required for Budget Activities 1, 2, 3, and 6

Note 1: IOC on DDG 93 with Software Version 6.3

Note 2: DT & OT shifts due to software deliveries not having full functionality when delivered and requiring re-work.

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Exhibit R-4a, Schedule Detail				DMR		DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT			PROJECT NUMBER AND NAME				
RDT&E, N / BA-5		PE: 0604280N		TITLE: DMR		3073 DMR			
Schedule Profile		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
IOC		4Q							
Low Rate Initial Production Decision (LRIP V)			2Q						
Software Delivery V6.3		1Q							
Software Delivery V6.4				1Q					
JITC			1Q	2Q					

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EXHIBIT R4, Schedule Profile																DATE:	February 2005																
APPROPRIATION/BUDGET / PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME																					
RDT&E, N /				PE: 0604280N				TITLE: JOINT TACTICAL RADIO SYSTEMS				3073 Airborne Maritime/Fixed JTRS (AMF JTRS)																					
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
Acquisition Milestones										MSB							MSC																
																	LRIP I																
Contract Preparation																																	
RFP Release																																	
Contract Award																																	
Prototype Phase (Pre-SDD)																																	
Preliminary Design Review																																	
System Development																																	
System Critical Design Review																																	
Test & Evaluation Milestones																																	
DT/OT Certification																																	
EDM's																																	

R-1 SHOPPING LIST - Item No. 100

* Not required for Budget Activities 1, 2, 3, and 6

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Exhibit R-4a, Schedule Detail				AMF JTRS		DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT		PROJECT NUMBER AND NAME						
RDT&E, N / BA-5		PE: 0604280N TITLE: JOINT TACTICAL RAD		3073 Airborne Maritime/Fixed JTRS (AMF JTRS)						
Schedule Profile			FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Prototype Phase			4Q							
System Design Review (SDR)										
Milestone B (MS-B)					1Q					
Contract Preparation			1Q							
RFP Release			2Q							
Contract Award Pre-SDD			4Q							
Contract Award SDD					2Q					
Preliminary Design Review (PDR)				3Q-4Q						
System Development					1Q					
Critical Design Review (CDR)					3Q					
Quality Design and Build										
Test Readiness Review (TRR)										
DT/OT Certification						4Q				
Eng Dev Model (EDM)						4Q				
Software Delivery 1XXSW										
Preproduction Readiness Review (PRR)										
EDM Radar Delivery - Flt Related										
Milestone C (MS C)							4Q			
Low Rate Initial Production I (LRIP I)							1Q			
Low Rate Initial Production II (LRIP II)								1Q		
Contractor Testing										
Operational Testing (OT-IIA)										
Software Delivery 2XXSW										
Operational Testing (OT-II)										
Developmental Testing (DT-IIC)						4Q				
Functional Configuration Audit (FCA)										
Low-Rate Initial Production I Delivery										
Technical Evaluation (TECHEVAL)										
Physical Configuration Audit										
Operational Evaluation (OT-II) (OPEVAL)										
Low-Rate Initail Production II Delivery										
Contract Award Production										
IOC										
Full Rate Production (FRP) Decision									2Q	
Full Rate Production Start										
First Deployment										

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EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS			PROJECT NUMBER AND NAME 3020 MIDS JTRS			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total Project Cost	\$ -	\$ 22.120	\$ 80.176	\$ 99.101	\$ 32.222	\$ 10.995	\$ -	\$ -
X3020 Multifunctional Information Distribution System	\$ -	\$ 22.120	\$ 80.176	\$ 99.101	\$ 32.222	\$ 10.995	\$ -	\$ -
RDT&E Articles Qty		13		12				
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The MIDS-LVT is a jam-resistant, secure, digital (voice and data) information distribution system, enabling rapid integrated communications, navigation and identification for tactical and command and control operations. The technical objective of the MIDS JTRS program is to transform the current MIDS-LVT into a four-channel, Software Communications Architecture (SCA) compliant JTRS, while maintaining current Link-16 and tactical air navigation system (TACAN) functionality. MIDS gathers data from multiple sources and displays a digital view of the battlefield. The MIDS JTRS is designed to be plug-and-play interchangeable for U.S. Navy and U.S. Air Force platforms that use MIDS-LVT, while accommodating future technologies and capabilities. Improvements such as Link-16 enhanced throughput, Link-16 frequency re-mapping, and programmable crypto will also be realized in the MIDS JTRS design. In addition to the Link-16 and TACAN functionality, MIDS JTRS includes three 2 MHz to 2 GHz programmable channels that allow the warfighter to use multiple waveforms currently in development with the JTRS JPO. Total program requirements include: Terminal development, F/A-18 Level 0 integration, software hosting (Operating Environment/JTRS JPO Waveforms), Common Link Integration Processing (CLIP) Increment 1 embedding and production transition.</p> <p>(U) B. Accomplishments/Planned Program</p> <p>FY05: Complete Phase 2A specification development efforts for the Functional and Allocated baselines incorporating the latest National Security Architecture changes. Continue MIDS JTRS Phase 2B development effort. Conduct Preliminary Design Review in Aug 05.</p> <p>FY06: Complete detailed design review and hold Critical Design Review in Mar 06. Complete SRU build and test efforts and begin terminal integration and test. Start F/A-18 Level 0 integration to include integration preparation, Operational Flight Program changes and Engineering Change Proposal preparation. Perform software hosting efforts associated with the Cluster 1 Operating Environment and JTRS JPO waveforms.</p> <p>FY07: Conduct Test Readiness Review in Jan 07. Hold Milestone C decision meeting with ASN(RD&A) in Mar 07 to receive Low Rate Initial Production authorization. Complete contractor First Article Qualification Testing and conduct Government FAQT. Begin Production Verification Terminal deliveries in the 4th quarter. Continue F/A-18 Level 0 integration. Procure additional F/A-18 Test and Evaluation Test Assets for Developmental and Operational test. Begin F/A-18 integrated logistics support planning.</p>								

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																													
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME																																																														
RDT&E, N / BA-5	PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS	3020 MIDS JTRS																																																														
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EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS				PROJECT NUMBER AND NAME 3020 MIDS JTRS		

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY2010	FY 2011	To Complete	Total Cost
Related RDT&E										
PE 0604771D8Z	4.500	9.600								
PE TBD (Air Force)		9.900								

(U) E. ACQUISITION STRATEGY:

MIDS JTRS development will be initiated as a major modification to the MIDS-LVT using an Engineering Change Proposal to the existing production contracts. The U.S. prime contractors from the MIDS-LVT program (Data Link Solutions and ViaSat, Inc.) will cooperatively design and develop the terminal. Each prime contractor will build and qualify Production Verification Terminals. The U.S. will implement a continuous competition strategy between DLS and ViaSat that will be maintained throughout the MIDS JTRS production phase. This strategy was successfully used on MIDS-LVT.

(U) F. MAJOR PERFORMERS:

Prime Contractors: Data Link Solutions and ViaSat Inc.

(U) G. METRICS:

Earned Value Management (EVM) is used for metrics reporting and risk management.

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Exhibit R-3 Cost Analysis (page 1)								DATE:					February 2005	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT						PROJECT NUMBER AND NAME						
RDT&E, N / BA-5		PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS						3020 MIDS JTRS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract		
MIDS JTRS HW/SW Development	CPIF	Data Link Solutions Cedar Rapids, IA		3.807	Dec-04	32.541	Nov-05	23.526	Nov-06	Continuing	Continuing			
MIDS JTRS HW/SW Development	CPIF	ViaSat Inc. Carlsbad, CA		13.331	Dec-04	32.540	Nov-05	23.525	Nov-06	Continuing	Continuing			
MIDS JTRS Software Hosting	CPIF					8.100	Jul-06	7.000	Jul-07	Continuing	Continuing			
MIDS JTRS Production Transistion	CPIF							21.000	Oct-06	Continuing	Continuing			
CLIP Increment 1 MIDS JTRS Embedding	CPIF							4.400	Jun-07	Continuing	Continuing			
Systems Engineering	various			3.562	Jan-05	3.695	Jan-06	4.150	Jan-07	Continuing	Continuing			
Systems Engineering	WX	SSC-SD		1.345	Jan-05	1.400	Jan-06	1.500	Jan-07	Continuing	Continuing			
GFE										Continuing	Continuing			
Award Fees										Continuing	Continuing			
Subtotal Product Development			0.000	22.045		78.276		85.101		Continuing	Continuing			
Remarks:														
Note: MIDS JTRS is included in project unit X3073 in FY04, then moves to project unit X3020 starting in FY05.														
F/A-18 Level 0 Development Support						1.437	Nov-05	1.786	Nov-06	Continuing	Continuing			
F/A-18 Level 0 Integrated Logistics Support						0.300	Nov-05	3.600	Nov-06	Continuing	Continuing			
Configuration Management										Continuing	Continuing			
Technical Data										Continuing	Continuing			
Studies & Analyses										Continuing	Continuing			
GFE										Continuing	Continuing			
Award Fees										Continuing	Continuing			
Subtotal Support			0.000	0.000		1.737		5.386		Continuing	Continuing			
Remarks:														

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-5		PROGRAM ELEMENT PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS				PROJECT NUMBER AND NAME 3020 MIDS JTRS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
F/A-18 Level 0 Developmental Test & Evaluation						0.063	Nov-05	0.289	Nov-06	Continuing	Continuing	
F/A-18 Level 0 Operational Test & Evaluation										Continuing	Continuing	
F/A-18 Level 0 Test Assets	CPIF	Data Link Solutions Cedar Rapids, IA						4.063	Nov-06	Continuing	Continuing	
F/A-18 Level 0 Test Assets	CPIF	ViaSat Inc. Carlsbad, CA						4.062	Nov-06	Continuing	Continuing	
Testing Support										Continuing	Continuing	
Tooling										Continuing	Continuing	
GFE										Continuing	Continuing	
Award Fees										Continuing	Continuing	
Subtotal T&E			0.000	0.000		0.063		8.414		Continuing	Continuing	
Remarks:												
Contractor Engineering Support										Continuing	Continuing	
Government Engineering Support										Continuing	Continuing	
Program Management Support										Continuing	Continuing	
Travel				0.075		0.100		0.200		Continuing	Continuing	
Transportation										Continuing	Continuing	
SBIR Assessment										Continuing	Continuing	
Subtotal Management			0.000	0.075		0.100		0.200		Continuing	Continuing	
Remarks:												
Total Cost			0.000	22.120		80.176		99.101		Continuing	Continuing	

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Exhibit R-2a, RDTE Project Justification

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EXHIBIT R4, Schedule Profile																								DATE:				February 2005							
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-5												PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS												3020 MIDS JTRS											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4							
MIDS JTRS Migration																																			

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E, N / BA-5		PE: 0604280N		TITLE: JOINT TACTICAL RADIO SYSTEMS		3020 MIDS JTRS			
Schedule Profile		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
	MIDS JTRS Migration								
	Phase 2A Extension: Specification Development	1Q	3Q						
	Phase 2B: Design, Development, Fabrication and Qualification								
	System Development		1Q		4Q				
	Preliminary Design Review (PDR)		4Q						
	Critical Design Review (CDR)			2Q					
	Quality Design and Build			2Q	2Q				
	Test Readiness Review (TRR)				2Q				
	Contractor Testing (FAQT)				2Q, 4Q				
	Government Testing				4Q				
	Production Verification Terminal Delivery (PVT)				4Q	1Q			
	Production Transition Terminal Delivery (PTT)					1Q, 2Q			
	Test and Evaluation								
	F/A-18 Level 0 Integration								
	Technical Evaluation (TECHEVAL)				4Q	4Q			
	Operational Evaluation (OPEVAL)					4Q	1Q		
	Initial Operating Capability						2Q		
	Full Rate Production Decision						2Q		

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROJECT NUMBER AND NAME 9375 Super Conductor Micro-Electronics						
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total Project Cost	\$ 1.688	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
9375 Super Conductor Micro-Electronics	\$ 1.688	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>Super Conductor Micro-Electronics project - Funding will assist in the development of an All Digital Transceiver (ADT), which will improve a range of defense missions including tactical radio, satellite communications, signal intelligence, electronic warfare, and radar systems. This funding will also help to continue the Superconductor Micro-Electronics (SME) currently being developed in the Challenge Program-funded ONR SBIR phase III project, the All Digital Receiver (ADR), towards the development of an All Digital Transceiver.</p>								

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-5	PROGRAM ELEMENT NUMBER AND NAME PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS	PROJECT NUMBER AND NAME 9375 Super Conductor Micro-Electronics		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
X9375 Super Conductor Micro-Electronics	1.688	0.000	0.000	0.000
RDT&E Articles Quantity				
<div><p>FY04: Super Conductor Micro-Electronics project - Funding will assist in the development of an All Digital Transceiver (ADT), which will improve a range of defense missions including tactical radio, satellite communications, signal intelligence, electronic warfare, and radar systems. This funding will also help to continue the Superconductor Micro-Electronics (SME) currently being developed in the Challenge Program-funded ONR SBIR phase III project, the All Digital Receiver (ADR), towards the development of an All Digital Transceiver.</p></div>				

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005						
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME						
RDTE, N / BA-5	PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS	9375 Super Conductor Micro-Electronics						
(U) C. PROGRAM CHANGE SUMMARY:								
(U) Funding:	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
FY05 President's Budget	1.730	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FY06 President's Budget	1.688	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Adjustments	-0.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Summary of Adjustments								
SBIR/STTR Transfers	-0.040							
Economic Assumptions	-0.002							
	-0.042							
 (U) Schedule:								
Army CECOM contract with HYPRES has been awarded as of 20 Aug 04. ONR contract award to HYPRES awarded 30 Aug 04.								
 (U) Technical:								

Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 22 of 30)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:		February 2005																																		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME																																						
RDT&E, N / BA-5		PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS				9375 Super Conductor Micro-Electronics																																						
<p>(U) D. OTHER PROGRAM FUNDING SUMMARY:</p> <table> <thead> <tr> <th><u>Line Item No. & Name</u></th> <th><u>FY 2004</u></th> <th><u>FY 2005</u></th> <th><u>FY 2006</u></th> <th><u>FY 2007</u></th> <th><u>FY 2008</u></th> <th><u>FY 2009</u></th> <th><u>FY 2010</u></th> <th><u>FY 2011</u></th> <th><u>To Complete</u></th> <th><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td colspan="11">No other funding exists for X9375 Super Conductor Micro-Electronics</td> </tr> </tbody> </table> <p>(U) E. ACQUISITION STRATEGY:</p> <table> <tbody> <tr> <td>Program Milestones: N/A</td> <td></td> <td></td> <td></td> <td>FY 2004</td> <td></td> <td>FY2005</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>T&E Milestones:</p> <p>(U) F. MAJOR PERFORMERS:</p> <p>AArmy CECOM contract with HYPRES has been awarded as of 20 Aug 04. ONR contract award to HYPRES awarded 30 Aug 04.</p>												<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>	No other funding exists for X9375 Super Conductor Micro-Electronics											Program Milestones: N/A				FY 2004		FY2005				
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>																																		
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Program Milestones: N/A				FY 2004		FY2005																																						

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EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROJECT NUMBER AND NAME 9378 Digital Modular Radio (DMR)						
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total Project Cost	\$ -	\$ 1.945	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
9378 Digital Modular Radio (DMR)	\$ -	\$ 1.945	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Digital Modular Radio (DMR) provides improvements for fleet radio requirements in the HF, VHF, and UHF frequency band. The DMR replaces and will be interoperable and backwards compatible with legacy systems. The DMR is a digital, modular, software programmable, multi-channel, multi-function and multi-band (2MHz-2 GHz) radio system.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-5	PROGRAM ELEMENT NUMBER AND NAME PE: 0604280N TITLE: DIGITAL MODULAR RADIO (DMR)	PROJECT NUMBER AND NAME 9378 Digital Modular Radio (DMR)		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
DMR	0.000	1.945	0.000	0.000
RDT&E Articles Quantity				
<p>FY05: Continue development of software 6.4 to include UHF SASTCOM (MIL-STD-188-181B Optional Modes), KG-84C/Over-The-Air-Rekey (OTAR) KG-84A Crypto emulation, SINCGARS Electronic Remote Fill (ERF) Capability, HF Transmit/Receive Waveform Capability, Cypher Test/Plain Test Capability, Por to Port Switching Capability. Continue HFPA development. (\$1.945)</p>				

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<p>(U) C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 45%;"></th> <th style="width: 10%; text-align: right;">FY 2004</th> <th style="width: 10%; text-align: right;">FY 2005</th> <th style="width: 10%; text-align: right;">FY 2006</th> <th style="width: 10%; text-align: right;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>(U) Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY05 President's Budget</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>FY06 President's Budget</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">1.945</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">1.945</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td style="padding-left: 20px;">Congressional Increase</td> <td></td> <td style="text-align: right;">2.000</td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Congressional Rescissions</td> <td></td> <td style="text-align: right;">-0.055</td> <td></td> <td></td> </tr> <tr> <td></td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 3px double black;">0.000</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 3px double black;">1.945</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 3px double black;">0.000</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 3px double black;">0.000</td> </tr> </tbody> </table> <p style="margin-top: 20px;">(U) Schedule:</p> <p style="margin-left: 20px;">Contract Award for continued 6.4 development planned Q3, 2005.</p> <p style="margin-top: 20px;">(U) Technical:</p> <p style="margin-left: 20px;">Not applicable</p>						FY 2004	FY 2005	FY 2006	FY 2007	(U) Funding:					FY05 President's Budget	0.000	0.000	0.000	0.000	FY06 President's Budget	0.000	1.945	0.000	0.000	Total Adjustments	0.000	1.945	0.000	0.000	Summary of Adjustments					Congressional Increase		2.000			Congressional Rescissions		-0.055				0.000	1.945	0.000	0.000
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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 27 of 30)

R-1 SHOPPING LIST - Item No. 100

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT PE: 0604280N Title: DIGITAL MODULAR RADIO			PROJECT NUMBER AND NAME 9378 Digital Modular Radio (DMR)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Contract	GDDS		1.645	05/05						1.645	
Operational Test & Evaluation											0.000	
Live Fire Test & Evaluation											0.000	
DMR Test & Evaluation (FOTE)	WX	SSC-SD		0.150							0.150	
DMR Test & Evaluation (FOTE)	WX	SSC-CH		0.150							0.150	
Test Assets											0.000	
Test Planning/Support										Continuing	Continuing	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	1.945		0.000		0.000		Continuing	1.945	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support										Continuing	Continuing	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		0.000		0.000			0.000	
Remarks:												
Total Cost				1.945						Continuing	1.945	
Remarks:												

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EXHIBIT R4, Schedule Profile														DATE:				February 2005														
APPROPRIATION/BUDGET A PROGRAM ELEMENT NUMBER AND NAME														PROJECT NUMBER AND NAME																		
RDT&E, N / BA-5														9378 Digital Modular Radio (DMR)																		
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition (DMR) Milestones (S/W Version 6.4) FY05 RDT&E \$2.0M Plus-Up																																
S/W Vers 6.4 Contract Award							△																									
ADNS/MCAP System/Protocol Development							S/W Development and Test																									
Operator Station Authentication Architecture Development							S/W Development and Test																									
Software Delivery													△ MCAP △ OSAA																			
Test & Evaluation Milestones																																
Development Test																																
Technical Evaluation																																
Operational Evaluation																																
Production Milestones																																
Full Rate Production Start-up																																
Low-Rate Initial Production (LRIP) Start-up																																
Low-Rate Initial Production (LRIP) Delivery																																

R-1 SHOPPING LIST - Item No. 100

* Not required for Budget Activities 1, 2, 3, and 6

Note 1:

Note 2:

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Exhibit R-4a, Schedule Detail				DMR		DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT			PROJECT NUMBER AND NAME					
RDT&E, N / BA-5		PE: 0604280N		TITLE: DMR		9378 Digital Modular Radio (DMR)				
Schedule Profile		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
S/W Version 6.4 Mod Contract Award			3Q							
MC Software Development and Testing				4Q						
Operator Station Authentication Architecture			3Q	4Q						
ADNS/MCAP System/Protocol Development			3Q	4Q						

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EXHIBIT R-2, RDT&E Budget Item Justification						DATE:		
						February 2005		
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5				PE 0604300N - DD (X) Total Ship Systems Engineering				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	1,015.025	1,163.933	1,114.791	904.432	724.027	647.319	675.908	726.420
2464 / DD(X) System Design, Development and Int	793.750	978.846	1,027.787	741.974	396.785	233.299	229.582	272.998
2466 / Multi-Function Radar	23.301	12.164	0.000	0.000	0.000	0.000	0.000	0.000
2735 / Volume Search Radar	68.474	57.118	10.082	5.071	0.000	0.000	0.000	0.000
3105 / BLK II Seeker Technology Dev.	0.000	0.000	0.000	0.000	51.551	86.054	95.912	81.581
3106 / Combat Systems Integration	0.000	0.000	0.000	50.349	65.203	75.088	74.967	79.635
3107 / CG (X) Development	0.000	0.000	30.110	60.035	162.700	204.231	225.895	241.868
4009 / Advanced Gun System (AGS)	47.459	45.951	46.812	47.003	47.788	48.647	49.552	50.338
4010 / Integrated Power System (IPS)	69.114	59.495	0.000	0.000	0.000	0.000	0.000	0.000
9376 / Alternative Engine	6.770	9.374	0.000	0.000	0.000	0.000	0.000	0.000
9377 / Knowledge Projection for Fleet Maintenance	1.929	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9378 / Modular Radio	3.265	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9379 / Wireless LAN	0.963	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9554 / Naval Smartship	0.000	0.985	0.000	0.000	0.000	0.000	0.000	0.000
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This Program Element (PE) provides funds for development of the DD(X) Class of U. S. Navy surface combatants, advanced development R&D which is integral to DD(X) Destroyer and CG(X), future cruiser, development. The mission of the DD(X) class is to provide affordable and credible independent forward presence/deterrence and operate as an integral part of Naval, Joint or Combined Maritime Forces. DD(X) will provide advanced land attack capability in support of the ground campaign and contribute to Naval, Joint or Combined battlespace dominance in littoral operations. DD(X) will establish and maintain surface and sub-surface superiority, provide local air defense, and incorporate signature reduction to operate in all threat environments. DD(X) will have seamless Joint Interoperability to integrate all source information for battlespace awareness and weapons direction.								
The following Congressional adds are contained in this Program Element:								
-Alternative Engine. Provides a system alternative for the lead ship power solution and will further enhance the GE engine design.								
-Knowledge Projection. Funds the development of a new system to remotely monitor Navy ships (systems and equipment), enable technicians to repair and maintain increasing complex equipment utilizing equipment failure characteristics, and share related repair knowledge with off-ship technical experts via the DoD/Navy communications systems.								
-Wireless LAN Design Tools. Funds development of a computer-based wireless LAN to reduce the costs of designing wireless LAN systems to aid in developing cost-effective WLAN solutions for Navy ships.								
-Naval Smartship. Funds development of a synthetic environment to simulate the effects of insertion of technology and/or new business processes where the crew is removed from a ship.								

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering				PROJECT NUMBER AND NAME 2464 - DD(X) System Design, Development & Integration			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	793.750	978.846	1,027.787	741.974	396.785	233.299	229.582	272.998
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project encompasses efforts for the Phase IV systems engineering, completion and testing of selected Engineering Development Models (EDMs), verification and validations of selected models. This PE also funds the DD(X) Flight I software requirements analysis, architectural and design code and unit testing, integration, qualification testing, and Independent Verification and Validation (IV&V). This effort includes the end-to-end software development costs for software releases 4-6 for the Flight I Ship.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 2464 - DD(X) System Design, Development & Integration																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">719.858</td> <td style="text-align: center;">895.475</td> <td style="text-align: center;">81.400</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	719.858	895.475	81.400	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	719.858	895.475	81.400	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 80px;"> <p>In FY04, conducted the Preliminary Design Review (PDR) and began planning for the Critical Design Review (CDR). In FY05 conduct the CDR and Milestone B. Begin preparing for the Detail Design and Construction phase. In FY06, continue S-Band Radar integration and test.</p> </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">41.657</td> <td style="text-align: center;">55.510</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	41.657	55.510	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	41.657	55.510	0.000	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 80px;"> <p>Continued support of the DD(X) Technical Team. The Technical Team provides the expertise to evaluate / support the DD(X) industry design in the areas of Combat Systems; Hull, Mechanical and Electrical; Command, Control, Communication and Computers; Modeling and Simulation; Total Ship Computing, and Test and Evaluation. Team will review and certify the DD(X) Design Agent software development. This task concludes with contract Phase III in FY05.</p> </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">18.525</td> <td style="text-align: center;">17.425</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	18.525	17.425	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	18.525	17.425	0.000	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 80px;"> <p>The DD(X) LFT&E Program focuses on the following areas: Mission Recoverability, Magazine Protection, Damaged Seaway Survival, Selected Equipment Vulnerability, and Advanced Weapons Threat Effects. These areas address critical elements of DD(X) System survivability as defined in the Test and Evaluation Master Plan (TEMP) 1560, the LFT&E Management Plan, and the Operational Requirements Document (ORD). In FY04, began testing of EDMs that will be incorporated into the DD(X) Ship Design. In FY05, Complete the Vulnerability Assessment Report (VAR) for the DD(X) Phase III prior to the DD(X) CDR.</p> </div>																			

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 2464 - DD(X) System Design, Development & Integration		
B. Accomplishments/Planned Program (Cont.)				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	13.710	10.436	0.000	0.000
RDT&E Articles Quantity				
<p>Continue identification and risk mitigation efforts in high risk areas such as Manning, Life Cycle Engineering and Support (LCE&S), and Total Ship Computing. Continue Manning/Human Systems Integration (HSI) and LCE&S Integrated Product Teams (IPTs) to address the impact to the future Navy support infrastructure in these functional areas. Monitor the industry-developed risk watch list and evaluate as a mechanism for reporting risk metrics in DD(X) Aquisition reporting documentation. Review and develop proposed policy changes as a result of how DD(X) will impact Navy manning and life cycle support structure. Establish Executive Steering Groups to review/ monitor specific Phase III technology development focus areas: Integrated Power System (IPS) and propulsion, Radar Suite and Software.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	721.733	605.296
RDT&E Articles Quantity				
<p>Development of the DD(X) Flight I software requirements analysis, architectural and detail design, COTS/GOTS software acquisition, code and unit testing, integration, qualification testing, and Independent Verification and Validation (IV&V). Development of a total system software architecture that defines the relationships and interfaces among the software segments, elements, components, and/or configuration items. Conduct the following events for the remaining software releases: Software Specification Review (S-SSR), Software Preliminary Design Review (S-PDR), Software Critical Design Review (S-CDR), Software Integration Readiness Review (SIRR), Test Readiness Review (TRR) and Software Certification Panel (SCP). Conduct all developmental test planning, conduct, test data analysis and reporting as listed in the DD(X) TEMP. Perform total ship system design and analysis engineering studies. Perform systems engineering, develop, and fully integrate into the DD(X) System an ES system for DD(X). Develop, implement, and qualify a system to to provide missile inertial mid-course guidance using Pre-Planned Product Improvement (P3I) uplink and terminal missile guidance using Interrupted Continuous Wave Illumination (ICWI). Systems engineering and development of an Anti-Tamper (AT) protection plan System for DD(X).</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	224.654	136.678
RDT&E Articles Quantity				
<p>Completion and testing of ship and warfare system engineering development models. Conduct Ship Control System (SCS) testing at the land based test facility to include: system integration prior to shipboard installation, Human Systems Integration on utilizing automation, validate proposed software changes prior to shipboard installation and perform all tests required by the Test & Evaluation Master Plan (TEMP). Conduct developmental testing on aft Peripheral Vertical Launching System (PVLS) and selected Integrated Power System (IPS) components. Tesing to demonstrate casualty response drills on IPS Land Based Test Facility components including fire-fighting operations using the techniques identified for the Flight I design (e.g., water mist fire fighting media). Conduct communication and sense aperture cosite and electromagnetic interference risk reduction testing for critical arrays (those most likely to have electromagnetic interference issues) at the Wallops Island Test Facility. Conduct integrated firefighting demonstrations aboard the ex-SHADWELL using a representative fire main architecture that reflects two partial fire zones on the DD(X). Conduct Tomahawk restrained firing test.</p>				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																												
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 2464 - DD(X) System Design, Development & Integration																																																																													
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 35%;">Funding:</th> <th style="text-align: right; width: 15%;">FY 2004</th> <th style="text-align: right; width: 15%;">FY 2005</th> <th style="text-align: right; width: 15%;">FY 2006</th> <th style="text-align: right; width: 15%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>FY 2005 President's Budget</td> <td style="text-align: right;">821.377</td> <td style="text-align: right;">1,034.002</td> <td style="text-align: right;">1,017.159</td> <td style="text-align: right;">721.649</td> </tr> <tr> <td>FY 2006/2007 President's Budget</td> <td style="text-align: right;">793.750</td> <td style="text-align: right;">978.846</td> <td style="text-align: right;">1,027.787</td> <td style="text-align: right;">741.974</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-27.627</td> <td style="text-align: right; border-top: 1px solid black;">-55.156</td> <td style="text-align: right; border-top: 1px solid black;">10.628</td> <td style="text-align: right; border-top: 1px solid black;">20.325</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td>SBIR</td> <td style="text-align: right;">-20.637</td> <td></td> <td></td> <td></td> </tr> <tr> <td>ATFP</td> <td></td> <td></td> <td style="text-align: right;">1.500</td> <td style="text-align: right;">2.000</td> </tr> <tr> <td>ERAM Insensitive Munitions/DBR Upgrades</td> <td></td> <td></td> <td style="text-align: right;">7.000</td> <td style="text-align: right;">9.000</td> </tr> <tr> <td>Cancelled Accounts</td> <td style="text-align: right;">-1.077</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Execution Realignment</td> <td style="text-align: right;">-5.091</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Congressional Reductions</td> <td></td> <td style="text-align: right;">-44.500</td> <td></td> <td></td> </tr> <tr> <td>Congressional Undistributed Reductions</td> <td></td> <td style="text-align: right;">-9.465</td> <td></td> <td></td> </tr> <tr> <td>Inflation Adjustments</td> <td style="text-align: right;">-0.776</td> <td></td> <td style="text-align: right;">8.978</td> <td style="text-align: right;">8.040</td> </tr> <tr> <td>Miscellaneous Adjustments</td> <td style="text-align: right;">-0.046</td> <td style="text-align: right;">-1.191</td> <td style="text-align: right;">-6.850</td> <td style="text-align: right;">1.285</td> </tr> <tr> <td>Subtotal</td> <td style="text-align: right;">-27.627</td> <td style="text-align: right;">-55.156</td> <td style="text-align: right;">10.628</td> <td style="text-align: right;">20.325</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule: Not Applicable</p> <p style="margin-top: 20px;">Technical: Not Applicable</p>					Funding:	FY 2004	FY 2005	FY 2006	FY 2007	FY 2005 President's Budget	821.377	1,034.002	1,017.159	721.649	FY 2006/2007 President's Budget	793.750	978.846	1,027.787	741.974	Total Adjustments	-27.627	-55.156	10.628	20.325	Summary of Adjustments					SBIR	-20.637				ATFP			1.500	2.000	ERAM Insensitive Munitions/DBR Upgrades			7.000	9.000	Cancelled Accounts	-1.077				Execution Realignment	-5.091				Congressional Reductions		-44.500			Congressional Undistributed Reductions		-9.465			Inflation Adjustments	-0.776		8.978	8.040	Miscellaneous Adjustments	-0.046	-1.191	-6.850	1.285	Subtotal	-27.627	-55.156	10.628	20.325
Funding:	FY 2004	FY 2005	FY 2006	FY 2007																																																																											
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EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering			PROJECT NUMBER AND NAME 2464 - DD(X) System Design, Development & Integration				

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
PE 0603513N / Shipboard Sys Component Dev	35.425	45.254	22.150	16.420	19.271	19.535	19.780	19.942	CONT	CONT
BLI 2211900 / SCN	0.000	304.281	715.992	2,567.960	2,814.869	2,542.584	2,629.878	2,186.346	CONT	CONT

E. ACQUISITION STRATEGY:

(U) The DD (X) acquisition strategy encompasses five contract phases: Phase I – System Concepts, Phase II – Initial System Design, Phase III – System Design, Phase IV – Detail Design and Construction, and Phase V – Engineering and Logistics Life Cycle Support. The Navy awarded section 845/804 agreements for Phases I and II for two DD (X) Industry teams. Downselection to a single DD (X) Design Agent, Northrop Grumman ship systems, occurred 3rd quarter FY 2002 to begin Contract Phase III. The Phase IV RDT&E efforts begin in FY06. The DD(X) acquisition strategy for the first six ships was approved by OUSD (AT&L) on 24 Feb 04. The Navy will contract the DD(X) Design Agent (DA), Northrop Grumman Ship Systems (NGSS), as a single source for Phase IV detail design and integration efforts using a CPAF/CPIF contract type.

F. MAJOR PERFORMERS:

DD(X) Design Agent - Northrop Grumman Ship Systems
Major Subcontractors - Raytheon, Bath Iron Works, UDLP, Lockheed Martin, NGMS
Government Field Activities - NSWC Carderock, NSWC Dahlgren, NSWC Port Hueneme
Universities - John Hopkins University, Applied Physics Lab (APL/JHU)

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Exhibit R-3 Cost Analysis (page 1)											DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME									
RDT&E, N / BA-5			PE 0604300N - DD(X) Total Ship Systems Engineering			2464 - DD(X) System Design, Development & Integration									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date (1)	FY 05 Cost	FY 05 Award Date (1)	FY 06 Cost	FY 06 Award Date (1)	FY 07 Cost	FY 07 Award Date (1)	Cost to Complete	Total Cost	Target Value of Contract	
Initial System Concepts - Phase I	OTA	DD(X) Industry Team	54.800	0.000	N/A	0.000	N/A	0.000	N/A	0.000	N/A	0.000	54.800		
Initial System Design - Phase II	OTA	DD(X) Industry Team	139.919	0.000	N/A	0.000	N/A	0.000	N/A	0.000	N/A	0.000	139.919		
Primary H/W Development- Phase III	CPAF	DD(X) Design Agent (NGSS)	585.213	719.858	1QFY04	869.369	1QFY05	62.200	1QFY06	0.000	N/A	CONT.	CONT.		
Ship Integration Development Phase IV		DD(X) Design Agent (NGSS)						787.697	1QFY06	558.972	1QFY07	CONT.	CONT.		
Ship Suitability													0.000		
Systems Engineering													0.000		
Training Development													0.000		
Licenses													0.000		
Tooling													0.000		
GFE													0.000		
Award Fees													0.000		
Subtotal Product Development			779.932	719.858		869.369		849.897		558.972		CONT.	CONT.		
Remarks: (1) The DD(X) Design Agent contract was awarded in April 2002.															
Development Support													0.000		
Software Development													0.000		
Training Development													0.000		
Integrated Logistics Support													0.000		
Configuration Management													0.000		
Technical Data													0.000		
GFE													0.000		
Award Fees													0.000		
Subtotal Support			0.000	0.000		0.000		0.000		0.000		0.000	0.000		
Remarks: Support costs are included in the Development contract costs.															

R-1 SHOPPING LIST - Item No. 101

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Exhibit R-3, RDTEN Cost Analysis
(Exhibit R-3, page 7 of 61)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)											DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME									
RDT&E, N / BA-5			PE 0604300N - DD(X) Total Ship Systems Engineering			2464 - DD(X) System Design, Development & Integration									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Live Fire Test & Evaluation	OTA	DD(X) Industry Teams	4.875	0.000	N/A	0.000	N/A	0.000	N/A	0.000	N/A	N/A	4.875		
Live Fire Test & Evaluation	CAPF	DD(X) Design Agent	4.100	0.000	12/02	41.700	N/A	20.900	1QFY06	60.300	1QFY07	Continuing	Continuing		
Live Fire Test & Evaluation	WR	NSWC CD Bethesda MD	14.812	7.921	11/03	0.000	N/A	0.000	N/A	0.000	N/A	N/A	22.733		
Live Fire Test & Evaluation	WR	NSWC DD Dahlgren VA	1.950	1.450	11/03	0.000	N/A	0.000	N/A	0.000	N/A	N/A	3.400		
Live Fire Test & Evaluation	Various	Various	7.022	9.154	11/03	4.200	11/04	8.600	1QFY06	10.100	1QFY07	Continuing	Continuing		
GFE															
Award Fees															
Subtotal T&E			32.759	18.525		45.900		29.500		70.400		Continuing	Continuing		
Remarks:															
Contractor Engineering Support	GSA/FFP	Anteon Arlington VA	15.617	9.780	11/03	12.348	11/04	0.000	N/A	0.000	N/A	Continuing	Continuing		
	GSA	GRCI, Falls Church VA	6.342	2.019	11/03	0.945	11/04	0.000	N/A	0.000	N/A	Continuing	Continuing		
		Seaport, NAVSEA						18.500	1QFY06	19.400	1QFY07	Continuing	Continuing		
	Misc	Various	8.665	1.334	11/03	2.890	11/04	7.500	1QFY06	4.900	1QFY07	Continuing	Continuing		
Government Engineering Support	WR	NSWC DD Dahlgren VA	51.137	14.237	11/03	12.076	11/04	28.600	1QFY06	23.200	1QFY07	Continuing	Continuing		
	WR	NSWC CD Bethesda MD	26.706	10.142	11/03	13.540	11/04	23.700	1QFY06	20.370	1QFY07	Continuing	Continuing		
	WR	NSWC CR Crane IN	4.712	0.613	11/03	0.576	11/04	3.750	1QFY06	3.000	1QFY07	Continuing	Continuing		
	WR	NSWC PHD Pt Hueneme CA	6.705	2.391	11/03	1.349	11/04	18.650	1QFY06	13.694	1QFY07	Continuing	Continuing		
	WR	SSCSD Dan Diego CA	6.861	1.396	11/03	1.468	11/04	6.500	1QFY06	3.000	1QFY07	Continuing	Continuing		
	WR	NUWC/N Newport RI	4.105	1.420	11/03	1.025	11/04	6.500	1QFY06	3.000	1QFY07	Continuing	Continuing		
	WR	NSWC/PC Panama City, FL	1.380	0.752	11/03	1.500	11/04	7.500	1QFY06	3.500	1QFY07	Continuing	Continuing		
	Various	Other Govt Activities	13.141	0.701	11/03	5.091	11/04	13.000	1QFY06	10.900	1QFY07	Continuing	Continuing		
Program Management Support	Various	Various	12.540	2.948	11/03	3.154	11/04	4.500	1QFY06	2.500	1QFY07	Continuing	Continuing		
Travel	Various	Various	2.412	0.700	Various	1.000	Various	1.500	1QFY06	1.500	1QFY07	Continuing	Continuing		
Labor (Research Personnel)	CPFF	APL/JHU Laurel MD	11.580	6.934	11/03	6.615	11/04	8.190	1QFY06	3.638	1QFY07	Continuing	Continuing		
SBIR Assessment															
Subtotal Management			171.903	55.367		63.577		148.390		112.602		Continuing	Continuing		
Remarks:															
Total Cost			984.594	793.750		978.846		1,027.787		741.974		CONT.	CONT.		
Remarks:															

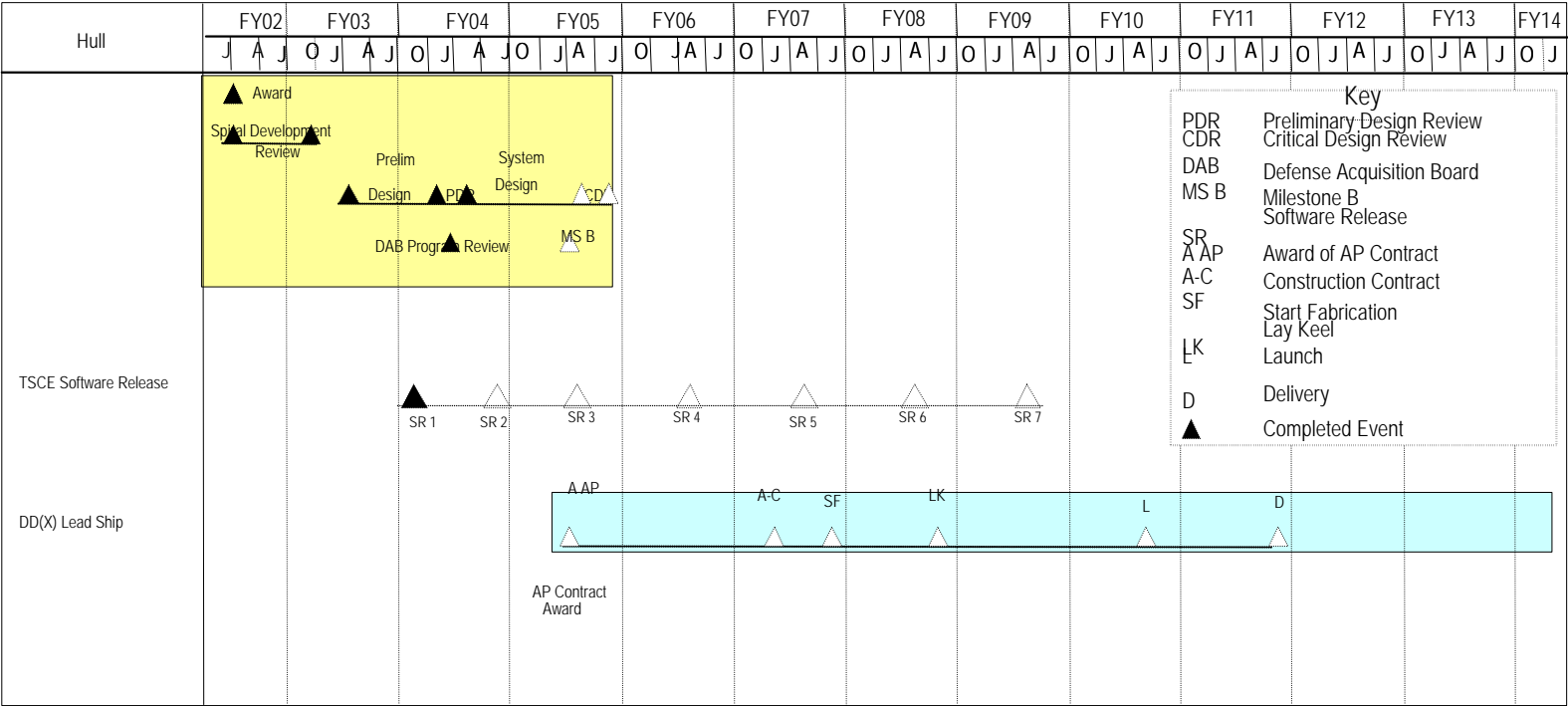
R-1 SHOPPING LIST - Item No. 101

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Exhibit R-3, RD TEN Cost Analysis
(Exhibit R-3, page 8 of 61)

CLASSIFICATION:

EXHIBIT R4, Schedule Profile			DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME	
RDT&E, N / BA-5		PE 0604300N - DD(X) Total Ship Systems Engineering		2464 - DD(X) System Design, Development & Integration	



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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering				PROJECT NUMBER AND NAME 2466 - Multi-Function Radar (MFR)			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	23.301	12.164	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project provides funds for the development of the Multi-Function Radar (MFR) in association with DD(X). This provides DD(X) and other applicable surface ships with an affordable, high performance radar for ship defense well into the next century. This system is based on solid state, active array radar technology and will provide search, detect, track, and weapon control functions while dramatically reducing manning and life-cycle costs associated with multiple systems that perform these functions today. The MFR will achieve a level of force protection that greatly enhances ship defense capability against all threats envisioned in the littoral environment. A Test Article was delivered to Wallops Island in FY03 to support Developmental Test/Operational Assessment (DT/OA) land-based and at-sea testing.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 2466 - Multi-Function Radar (MFR)		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	7.156	0.000	0.000	0.000
RDT&E Articles Quantity				
<p>Engineering and Manufacturing Development (E&MD) phase of MFR hardware and software. Completed Factory Qualification Testing, conduct Factory Integration Testing, and began land based testing in FY04. Complete land based testing in FY05 and prepare for at-sea testing. Began transition to production efforts.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	5.402	7.689	0.000	0.000
RDT&E Articles Quantity				
<p>Government Engineering Services and Program Management support for E&MD. Perform oversight and assessment of MFR E&MD efforts including factory and land-based Test and Evaluation. Begin transition to production, including the development, fabrication, documentation and engineering support associated with the following efforts: (1) high speed automated manufacturing equipment, (2) test equipment and associated test program sets, (3) systems engineering and test engineering support and (4) failure analysis, parts engineering and configuration management. Provide support for integration of MFR into the DD(X) radar suite and overall ship systems. Provide engineering support for transition of MFR EDM to the MFR production system for DD(X).</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	8.644	2.945	0.000	0.000
RDT&E Articles Quantity				
<p>Evaluation, planning, documentation, scheduling and conducting of Developmental Test / Operational Assessment. Hardware / Software updates resulting from DT/OA. Complete Navy Land Based Testing.</p>				

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 12 of 61)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 2466 - Multi-Function Radar (MFR)																	
B. Accomplishments/Planned Program (Cont.)																			
<table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"><tr><td style="width: 30%;"></td><td style="width: 15%; text-align: center;">FY 04</td><td style="width: 15%; text-align: center;">FY 05</td><td style="width: 15%; text-align: center;">FY 06</td><td style="width: 15%; text-align: center;">FY 07</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">2.099</td><td style="text-align: center;">1.530</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table> <div style="border: 1px solid black; height: 150px; width: 100%; padding: 5px;">Provide Program Management in support of the above milestones.</div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	2.099	1.530	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	2.099	1.530	0.000	0.000															
RDT&E Articles Quantity																			

R-1 SHOPPING LIST - Item No.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 2466 - Multi-Function Radar (MFR)		

C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
Funding:				
FY 2005 President's Budget	22.790	12.277	0.015	0.000
FY 2006/2007 President's Budget	23.301	12.164	0.000	0.000
Total Adjustments	0.511	-0.113	-0.015	0.000
Summary of Adjustments				
SBIR	-0.155			
Cancelled Accounts	-0.058			
Inflation Adjustments	-0.021			
Execution Realignment	0.745			
Congressional Undistributed Reduction		-0.110		
Miscellaneous Adjustments		-0.003	-0.015	
Subtotal	0.511	-0.113	-0.015	0.000

Schedule:

Not Applicable

Technical:

Not Applicable

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME			
RDT&E, N / BA-5			PE 0604300N - DD(X) Total Ship Systems Engineering				2466 - Multi-Function Radar (MFR)			
D. OTHER PROGRAM FUNDING SUMMARY:										
Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
PE 0603513N / Shipboard Sys Component Dev	35.425	45.254	22.150	16.420	19.271	19.535	19.780	19.942	CONT	CONT
BLI 2211900 / SCN	0.000	304.281	715.992	2,567.960	2,814.869	2,542.584	2,629.878	2,186.346	CONT	CONT
E. ACQUISITION STRATEGY:										
(U) In FY 1999, the Government selected a single MFR contractor (Raytheon) to begin Phase III E&MD. EDM delivered in FY 2003. The Navy truncated the remaining MFR efforts under the 845/804 OTA and incorporated into the Phase III DD(X) DA contract to better align and integrate MFR into the DD(X) development efforts.										
F. MAJOR PERFORMERS:										
DD(X) Design Agent - Northrop Grumman Ship Systems										
Major Subcontractors - Raytheon										
Government Field Activities -										
Universities -										

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)											DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME									
RDT&E, N / BA-5			PE 0604300N - DD(X) Total Ship Systems Engineering			2466 - Multi-Function Radar (MFR)									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date (1)	FY 05 Cost	FY 05 Award Date (1)	FY 06 Cost	FY 06 Award Date (1)	FY 07 Cost	FY 07 Award Date (1)	Cost to Complete	Total Cost	Target Value of Contract	
Primary Hardware Development	CPAF/IF	Prime E&MD (Raytheon)	197.153	0.000	N/A	0.000	N/A	0.000	N/A	0.000	N/A	0.000	197.153		
	CPAF	DD(X) Design Agent	17.423	7.156	3QFY04	0.000	N/A	0.000	N/A	0.000	N/A	0.000	24.579		
	CP	Various	12.414	0.000	N/A	0.000	N/A	0.000	N/A	0.000	N/A	0.000	12.414		
Ship Integration													0.000		
Ship Suitability													0.000		
Systems Engineering													0.000		
Training Development													0.000		
Licenses													0.000		
Tooling													0.000		
GFE													0.000		
Award Fees													0.000		
Subtotal Product Development			226.990	7.156		0.000		0.000		0.000		0.000	234.146		
Development Support													0.000		
Software Development													0.000		
Training Development													0.000		
Integrated Logistics Support													0.000		
Configuration Management													0.000		
Technical Data													0.000		
GFE													0.000		
Award Fees													0.000		
Subtotal Support			0.000	0.000		0.000		0.000		0.000		0.000	0.000		
Remarks:															

R-1 SHOPPING LIST - Item No. 101

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Exhibit R-3, RD TEN Cost Analysis
(Exhibit R-3, page 16 of 61)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)											DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-5			PROGRAM ELEMENT PE 0604300N - DD(X) Total Ship Systems Engineering			PROJECT NUMBER AND NAME 2466 - Multi-Function Radar (MFR)								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various	9.283	2.378	11/03	0.000	N/A	0.000	N/A	0.000	N/A	0.000	11.661	
	CPAF	SCSC Wallops Island VA	2.156	1.388	11/03	1.375	11/04	0.000	N/A	0.000	N/A	0.000	4.919	
	SS/CPFF	JHU/APL Laurel MD	2.441	0.565	11/03	0.080	11/04	0.000	N/A	0.000	N/A	0.000	3.086	
	WX	NSWC PHD Pt Hueneme CA	1.470	1.630	11/03	0.976	11/04	0.000	N/A	0.000	N/A	0.000	4.076	
	WX	NSWC DD Dahlgren VA	0.984	1.957	11/03	0.434	11/04	0.000	N/A	0.000	N/A	0.000	3.375	
	WR/RC	NAWC Pt Mugu CA	1.195	0.726	11/03	0.000	N/A	0.000	N/A	0.000	N/A	0.000	1.921	
	WX/RX	NWSC Corona CA				0.080	11/04	0.000	N/A	0.000	N/A			
Subtotal T&E			17.529	8.644		2.945		0.000		0.000		0.000	29.038	
Remarks:														
Contractor Engineering Support														
Government Engineering Support	WR	NSWC DD Dahlgren VA	5.577	1.500	11/03	2.203	11/04	0.000	N/A	0.000	N/A	0.000	9.280	
	WR	NSWC PHD Pt Hueneme CA	2.965	1.199	11/03	1.169	11/04	0.000	N/A	0.000	N/A	0.000	5.333	
	SS/CPFF	APL/JHU Laurel MD	3.484	0.188	11/03	1.680	11/04	0.000	N/A	0.000	N/A	0.000	5.352	
	WR	Various	8.392	2.515	11/03	2.637	11/04	0.000	N/A	0.000	N/A	0.000	13.544	
Program Management Support	C/CPFF	Various	4.807	2.099	11/03	1.530	11/04	0.000	N/A	0.000	N/A	0.000	8.436	
Travel														
Labor (Research Personnel)														
SBIR Assessment														
Subtotal Management			25.225	7.501		9.219		0.000		0.000		0.000	41.945	
Remarks:														
Total Cost			269.744	23.301		12.164		0.000		0.000		0.000	305.129	
Remarks:														

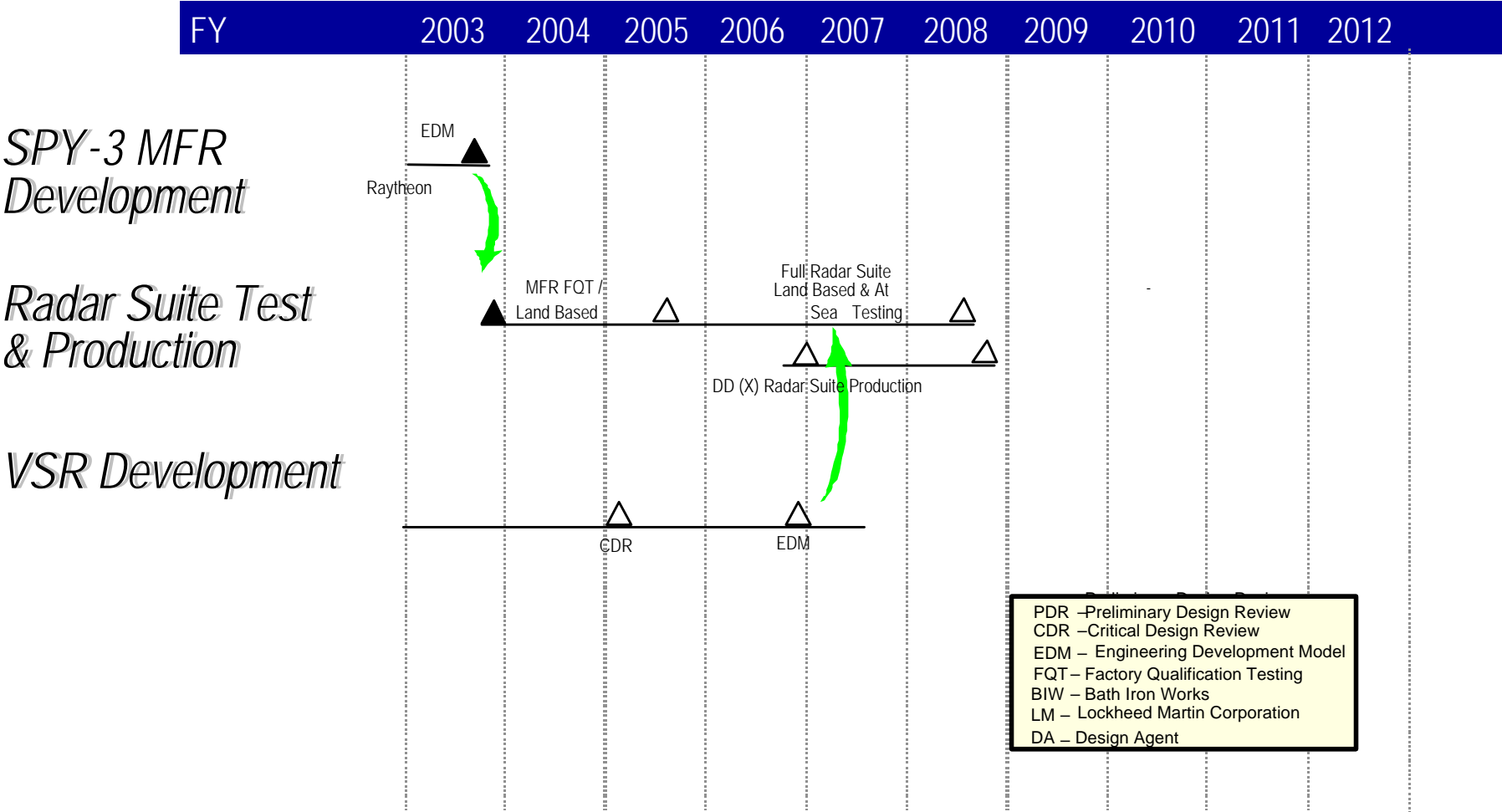
R-1 SHOPPING LIST - Item No. 101

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Exhibit R-3, RDTE&E Cost Analysis
(Exhibit R-3, page 17 of 61)

CLASSIFICATION:

EXHIBIT R4, Schedule Profile			DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering		PROJECT NUMBER AND NAME 2466 - Multi-Function Radar (MFR)	



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R-1 SHOPPING LIST - Item No. 101

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Exhibit R-4a, RDTEN Schedule Detail
(Exhibit R-4a, page 19 of 61)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering			PROJECT NUMBER AND NAME 2735 - Volume Search Radar (VSR)			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	68.474	57.118	10.082	5.071	0.000	0.000	0.000	0.000
RDT&E Articles Qty	1							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project provides funds for the development of the S-Band Volume Search Radar (VSR) in association with DD(X). This provides DD(X) and other applicable surface ships with an affordable, high performance air search radar. This system is based on solid state, active array radar technology and will provide search, detect, and track while dramatically reducing manning and life-cycle costs associated with multiple systems that perform these functions today. VSR provides long range above-the-horizon surveillance and timely cueing to Multi-Function Radar (MFR). A Test Article will be available in FY06 to support Developmental Test/Operational Assessment (DT/OA) land-based and at-sea testing.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 2735 - Volume Search Radar (VSR)																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">65.014</td><td style="text-align: center;">55.460</td><td style="text-align: center;">6.287</td><td style="text-align: center;">1.818</td></tr><tr><td>RDT&E Articles Quantity</td><td style="text-align: center;">1</td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	65.014	55.460	6.287	1.818	RDT&E Articles Quantity	1			
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	65.014	55.460	6.287	1.818															
RDT&E Articles Quantity	1																		
<div style="border: 1px solid black; padding: 5px; min-height: 40px;">In Phase III DD(X) Design Agent will finalize S-Band VSR design and procurement Engineering Development Model (EDM) hardware and will begin fabrication. Began test and evaluation planning. In FY06, delivery of EDM to Wallops to conduct VSR Factory Qualification Testing and prepare for Land Based Testing in FY05.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">3.217</td><td style="text-align: center;">1.658</td><td style="text-align: center;">3.195</td><td style="text-align: center;">2.653</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	3.217	1.658	3.195	2.653	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	3.217	1.658	3.195	2.653															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 40px;">Government Engineering Services and Program Management support for Engineering and Manufacturing Development (E&MD). Perform oversight and assessment of VSR E&MD efforts including Test and Evaluation. Support VSR Land Based Testing.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.243</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.600</td><td style="text-align: center;">0.600</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.243	0.000	0.600	0.600	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.243	0.000	0.600	0.600															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 40px;">Provide Program Management in support of the above milestones.</div>																			

R-1 SHOPPING LIST - Item No.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 2735 - Volume Search Radar (VSR)		

C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
Funding:				
FY 2005 President's Budget	72.243	57.667	0.002	0.000
FY 2006/2007 President's Budget	68.474	57.118	10.082	5.071
Total Adjustments	-3.769	-0.549	10.080	5.071
Summary of Adjustments				
SBIR	-1.951			
Inflation Adjustments	-0.067			
Execution Realignment	-1.638			
Congressional Undistributed Reductions		-0.516		
Realignment of VSR from 0603513N/4019			10.000	5.000
Miscellaneous Adjustments	-0.113	-0.033	0.080	0.071
Subtotal	-3.769	-0.549	10.080	5.071

Schedule:

Not Applicable

Technical:

Not Applicable

R-1 SHOPPING LIST - Item No. 101

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME					
RDT&E, N / BA-5		PE 0604300N - DD(X) Total Ship Systems Engineering			2735 - Volume Search Radar (VSR)					
D. OTHER PROGRAM FUNDING SUMMARY:										
Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
PE 0603513N / Shipboard Sys Component De	35.425	45.254	22.150	16.420	19.271	19.535	19.780	19.942	CONT	CONT
BLI 2211900 / SCN	0.000	304.281	715.992	2,567.960	2,814.869	2,542.584	2,629.878	2,186.346	CONT	CONT
E. ACQUISITION STRATEGY:										
(U) Downselection to a DD(X) Design Agent occurred 3rd quarter FY2002. The DD(X) Design Agent will initiate fabrication delivery of the VSR EDM in FY 2004. MFR/VSR Radar Suite DT/OA is anticipated in FY 2003 through FY 2005.										
F. MAJOR PERFORMERS:										
DD(X) Design Agent - Northrop Grumman Ship Systems										
Major Subcontractors - Raytheon, Lockheed Martin										
Government Field Activities - NAWC China Lake, NAWC Pt Mugu, NAWC TSD, NSWC Carderock, NSWC Crane, NSWC Dahlgren, NSWC Newport, NSWC Panama City, NSWC Port Hueneme, Naval Research Laboratory, SPAWAR Systems Center										
Universities - John Hopkins University / Applied Physics Laboratory, Applied Research Labs at University of Texas, University of Washington and Penn State University, Georgia Tech Research Institute										

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)											DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-5			PE 0604300N - DD(X) Total Ship Systems Engineering			2735 - Volume Search Radar (VSR)								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date (1)	FY 05 Cost	FY 05 Award Date (1)	FY 06 Cost	FY 06 Award Date (1)	FY 07 Cost	FY 07 Award Date (1)	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	OTA	DD(X) Industry Team	50.000	0.000	N/A	0.000	N/A					0.000	50.000	
	CPAF	DD(X) Design Agent (NGSS)	59.057	59.014	1QFY04	55.460	1QFY05	6.287	1QFY05	1.818	1QFY07	0.000	181.636	
Ship Integration	CPAF	Lockheed Martin SBAR N00024-02-C-5321		6.000	2QFY04	0.000	N/A	0.000	N/A	0.000	N/A	0.000	6.000	
Ship Suitability													0.000	
Systems Engineering													0.000	
Training Development													0.000	
Licenses													0.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal Product Development			109.057	65.014		55.460		6.287		1.818		0.000	237.636	
Development Support													0.000	
Software Development													0.000	
Training Development													0.000	
Integrated Logistics Support													0.000	
Configuration Management													0.000	
Technical Data													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														

R-1 SHOPPING LIST - Item No. 101

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Exhibit R-3, RD TEN Cost Analysis
(Exhibit R-3, page 24 of 61)

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CLASSIFICATION:

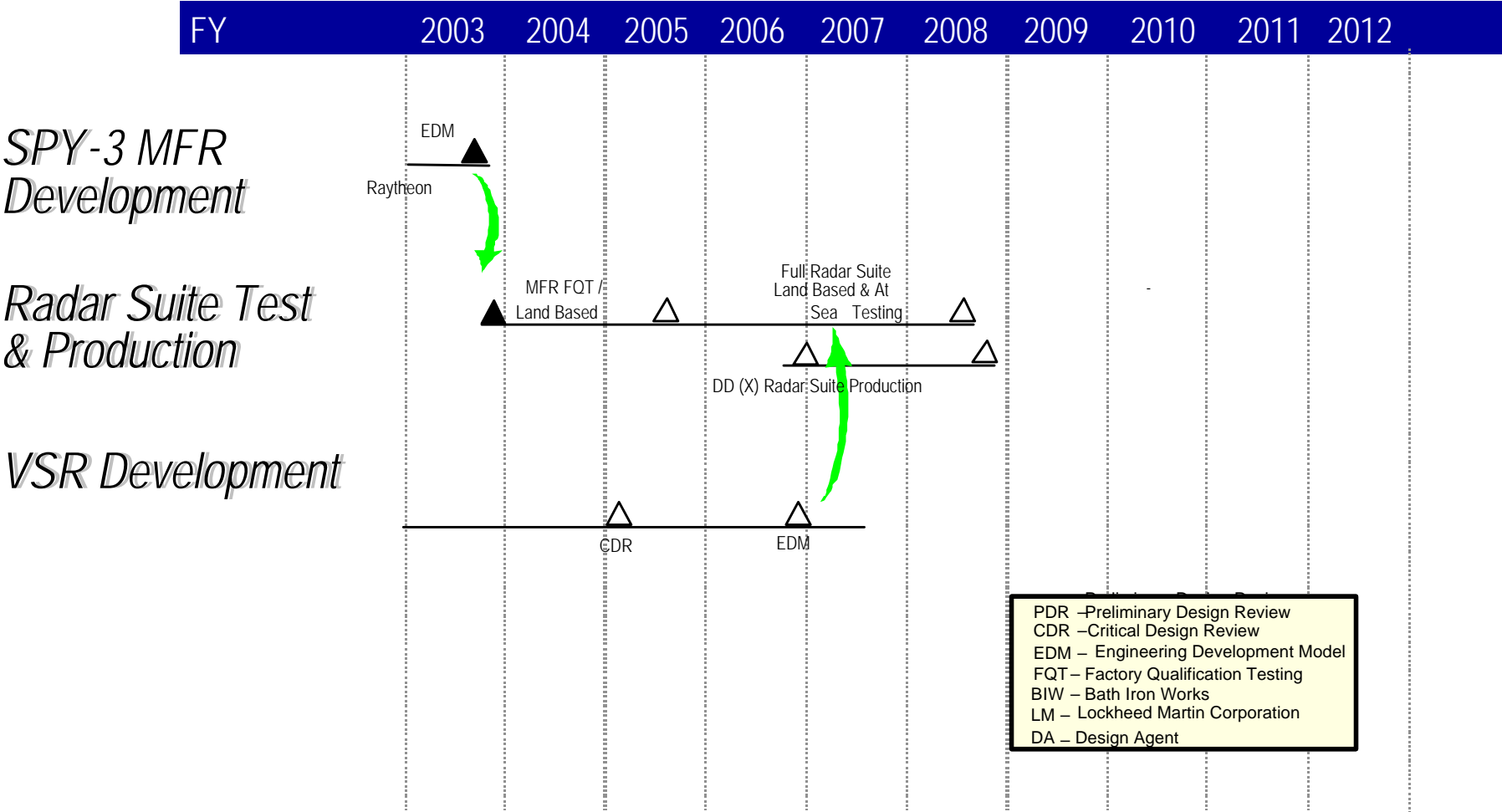
Exhibit R-3 Cost Analysis (page 2)												DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME							
RDT&E, N / BA-5			PE 0604300N - DD(X) Total Ship Systems Engineering				2735 - Volume Search Radar (VSR)							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test Evaluation	CPAF	SCSC Wallops Island VA	0.600	0.000	N/A	0.000	N/A	0.000	N/A	0.000	N/A	0.000	0.600	
	Various	Various	0.497	0.000	N/A	0.000	N/A	0.000	N/A	0.000	N/A	0.000	0.497	
Subtotal T&E			1.097	0.000		0.000		0.000		0.000		0.000	1.097	
Remarks:														
Contractor Engineering Support														
Government Engineering Support	WX	NSWC DD Dahlgren VA	3.506	0.200	11/03	0.000	N/A	0.800	11/05	0.800	11/06	0.000	5.306	
	WX	NSWC PHD Pt Hueneme CA	1.230	0.400	11/03	0.000	N/A	0.300	11/05	0.300	11/06	0.000	2.230	
	WX	Various	10.490	2.617	11/03	1.658	11/04	2.095	11/05	1.553	11/06	0.000	18.413	
Program Management Support	CPFF	Various	2.630	0.243	11/03	0.000	N/A	0.600	11/05	0.600	11/06	0.000	4.073	
Travel														
Labor (Research Personnel)														
SBIR Assessment														
Subtotal Management			17.856	3.460		1.658		3.795		3.253		0.000	30.022	
Remarks:														
Total Cost			128.010	68.474		57.118		10.082		5.071		0.000	268.755	
Remarks:														

R-1 SHOPPING LIST - Item No. 101

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile			DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 2735 - Volume Search Radar	



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Exhibit R-4a, RD TEN Schedule Detail
(Exhibit R-4a, page 27 of 61)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering			PROJECT NUMBER AND NAME 3106 - Combat Systems Integration			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	0.000	0.000	0.000	50.349	65.203	75.088	74.967	79.635
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

CG(X), future cruiser, is required to fill the identified future missile defense gap. CG(X) is required to replace the aging CG-47 class as they reach the end of their 35 year service life. This project encompasses efforts for the integration of communications, electronics, command and control, weapons, surveillance and shipboard systems and combat system computer programs into the CG(X) class combat system. These integration efforts include systems engineering, analysis, computer program development/modification, interface design, technical documentation, combat system test site development and system testing to ensure fully functional combat systems integration.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 3106 - Combat Systems Integration																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">30.300</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	30.300	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	30.300															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;">FY07: Commence system integration requirements studies, assess DD(X) combat system components applicable to CG(X), assess DD(X) combat systems components modifiable for CG(X), establish combat system integration Integrated Product Teams (IPTs).</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">5.049</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	5.049	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	5.049															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;">FY07: Establish Technical Team responsible for participation, oversight and monitoring of system integration effort.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">15.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	15.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	15.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;">FY07: Determine test site infrastructure requirements and commence test site infrastructure development.</div>																			

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 3106 - Combat Systems Integration		
C. PROGRAM CHANGE SUMMARY:				
Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY 2005 President's Budget	0.000	0.000	0.000	0.000
FY 2006/2007 President's Budget	0.000	0.000	0.000	50.349
Total Adjustments	0.000	0.000	0.000	50.349
Summary of Adjustments				
Establishment of Combat Systems Integration Project				50.349
Subtotal	0.000	0.000	0.000	50.349
Schedule:				
Not Applicable				
Technical:				
Not Applicable				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5				PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering			PROJECT NUMBER AND NAME 3106 - Combat Systems Integration			
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
BLI 211400 / SCN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3,210.588		
E. ACQUISITION STRATEGY:										
(U) Award Prime Design Agent contract for CG(X) Combat System Integration. Leverage DD(X) efforts to maximum extent possible to include commonality of combat system hardware and re-use of core combat system system computer software										
F. MAJOR PERFORMERS:										
Contractors - TBD										
Field Activities - NSWC Dahlgren, NSWC Port Hueneme, NSWC Corona										
Universities - N/A										

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RDT&E, N / BA-5					PE 0604300N - DD(X) Total Ship Systems Engineering				3106 - Combat Systems Integration					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date (1)	FY 05 Cost	FY 05 Award Date (1)	FY 06 Cost	FY 06 Award Date (1)	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development													0.000	
													0.000	
Ship Integration													0.000	
Ship Suitability													0.000	
Systems Engineering	TBD	TBD								45.000	1QFY07	CONT.	CONT.	TBD
Training Development													0.000	
Licenses													0.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal Product Development			0.000	0.000		0.000		0.000		45.000		CONT.	CONT.	
Remarks:														
Development Support													0.000	
Software Development													0.000	
Training Development													0.000	
Integrated Logistics Support													0.000	
Configuration Management													0.000	
Technical Data													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														

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Exhibit R-3, RD TEN Cost Analysis
(Exhibit R-3, page 32 of 61)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-5					PROGRAM ELEMENT PE 0604300N - DD(X) Total Ship Systems Engineering				PROJECT NUMBER AND NAME 3106 - Combat Systems Integration					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test Evaluation													0.000	
													0.000	
													0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
Contractor Engineering Support	TBD	TBD								1.172	1QFY07	Continuing	Continuing	
												Continuing	Continuing	
Government Engineering Support	TBD	TBD								4.177	1QFY07	Continuing	Continuing	
												Continuing	Continuing	
												Continuing	Continuing	
Program Management Support														
Travel														
Labor (Research Personnel)														
SBIR Assessment														
Subtotal Management			0.000	0.000		0.000		0.000		5.349		Continuing	Continuing	
Remarks:														
Total Cost			0.000	0.000		0.000		0.000		50.349		Continuing	Continuing	
Remarks:														

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Exhibit R-3, RDTE Cost Analysis
(Exhibit R-3, page 33 of 61)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 3106 - Combat Systems Integration
<div>CG(X)<div>200420052007200820102011JCIDS AnalysisCompetitionMS A StartPDRMS BLead Ship Award</div></div>		
R-1 SHOPPING LIST - Item No. 101		

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R-1 SHOPPING LIST - Item No.

Exhibit R-4a, RD TEN Schedule Detail
(Exhibit R-4a, page 35 of 61)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering				PROJECT NUMBER AND NAME 3107 - CG (X) Development			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	0.000	0.000	30.110	60.035	162.700	204.231	225.895	241.868
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

CG(X), future cruiser, is required to fill the identified future missile defense gap. CG(X) is required to replace the aging CG-47 class as they reach the end of their 35 year service life. This project encompasses efforts for total ship system development and integration of Hull, Mechanical and Electrical (HM&E) and shipboard systems into the CG(X) class. These engineering development and integration efforts include systems engineering, analysis, computer program development, interface design, technical documentation and system testing to ensure fully functional systems integration.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 3107 - CG (X) Development																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">27.000</td><td style="text-align: center;">56.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">FY06: Commence CG(X) system concept development. System concept includes a top level CG(X) concept, and initial CG(X)) performance specification, top level cost estimates, and Life Cycle Engineering and Support (LCE&S) concepts. FY07: Continue development of system functional baseline, refinement of performance specifications, development and validation of cost estimates, and development of total ship design leading to Preliminary Design Review (PDR).</div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	27.000	56.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	27.000	56.000															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">1.249</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">FY06: Develop Interface Control Document (ICD), CG(X) Design Reference Mission (DRM) and concept of operations (CONOPS).</div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	1.249	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	1.249	0.000															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">1.861</td><td style="text-align: center;">4.035</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">Establish Technical Team responsible for participation, oversight and monitoring of system concept. Provide engineering expertise to evaluate/support concepts in HM&E, Signatures, C3ISR, T&E, and LCE&S.</div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	1.861	4.035	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	1.861	4.035															
RDT&E Articles Quantity																			

R-1 SHOPPING LIST - Item No.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 3107 - CG (X) Development		
C. PROGRAM CHANGE SUMMARY:				
Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY 2005 President's Budget	0.000	0.000	0.000	0.000
FY 2006/2007 President's Budget	0.000	0.000	30.110	60.035
Total Adjustments	0.000	0.000	30.110	60.035
Summary of Adjustments				
Establish CG(X) Development project			30.110	60.035
Subtotal	0.000	0.000	30.110	60.035
Schedule:				
Not Applicable				
Technical:				
Not Applicable				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5				PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering			PROJECT NUMBER AND NAME 3107 - CG (X) Development			
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
BLI 211400 / SCN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3,210.588		
E. ACQUISITION STRATEGY:										
F. MAJOR PERFORMERS:										
Contractors - TBD										

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RDT&E, N / BA-5					PE 0604300N - DD(X) Total Ship Systems Engineering				3107 - CG (X) Development					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	TBD	TBD						27.000	1QFY06	56.000	1QFY07	Continuing	Continuing	
												0.000	0.000	
Ship Integration													0.000	
Ship Suitability													0.000	
Systems Engineering													0.000	
Training Development													0.000	
Licenses													0.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal Product Development			0.000	0.000		0.000		27.000		56.000		Continuing	Continuing	
Remarks:														
Development Support													0.000	
Software Development													0.000	
Training Development													0.000	
Integrated Logistics Support													0.000	
Configuration Management													0.000	
Technical Data													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														

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Exhibit R-3, RD TEN Cost Analysis
(Exhibit R-3, page 40 of 61)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RD&E, N / BA-5					PROGRAM ELEMENT PE 0604300N - DD(X) Total Ship Systems Engineering				PROJECT NUMBER AND NAME 3107 - CG (X) Development					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test Evaluation													0.000	
													0.000	
													0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
Contractor Engineering Support		TBD						1.249	1QFY06	1.358	1QFY07	Continuing	Continuing	
		TBD						1.861	1QFY06	2.677	1QFY07	Continuing	Continuing	
Government Engineering Support												Continuing	Continuing	
												Continuing	Continuing	
Program Management Support														
Travel														
Labor (Research Personnel)														
SBIR Assessment														
Subtotal Management			0.000	0.000		0.000		3.110		4.035		Continuing	Continuing	
Remarks:														
Total Cost			0.000	0.000		0.000		30.110		60.035		Continuing	Continuing	
Remarks:														

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile		DATE:	February 2005
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-5		PE 0604300N - DD(X) Total Ship Systems Engineering	3107 - CG (X) Development
<div><div>CG(X)</div><div><div>2004</div><div>2005</div><div>2007</div><div>2008</div><div>2010</div><div>2011</div></div><div><div>JCIDS Analysis</div><div>Competition</div><div>MS A Start</div><div>PDR MS B</div><div>CIDR</div><div>Prelim Design</div><div>Lead Ship Award</div></div></div>			

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CLASSIFICATION:

[illegible]

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering			PROJECT NUMBER AND NAME 4009 - Advanced Gun System (AGS)			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	47.459	45.951	46.812	47.003	47.788	48.647	49.552	50.338
RDT&E Articles Qty	1							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Long Range Land Attack Projectile (LRLAP) fired from AGS has a range of over 83 nautical miles and will deliver a high explosive unitary payload with GPS accuracy. LRLAP will be stored throughout its life cycle in an 8 round pallet which is handled by the AGS magazine. By palletizing the munition AGS is able to significantly reduce manning and improve munition reliability, safety and resupply. The LRLAP EDM guided flight tests began in Dec 2004 and will be followed by final System Design and Development and qualification testing through 2009. These funds provide for the development of the Advanced Gun System (AGS) associated with the development of DD(X). The AGS will consist of a major caliber gun, an automated ammunition handling system, and a family of munitions/propelling charges. The AGS will, at a minimum, meet the Land Attack and Surface Dominance Missions assigned to the gun system. The system will provide a high rate of fire (approximately 10 rounds per minute) with a magazine capacity sufficient in size for meeting USMC operational requirements.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 4009 - Advanced Gun System (AGS)																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;"></td><td style="width: 10%; text-align: center;">FY 04</td><td style="width: 10%; text-align: center;">FY 05</td><td style="width: 10%; text-align: center;">FY 06</td><td style="width: 10%; text-align: center;">FY 07</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">12.300</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td style="text-align: center;">1</td><td></td><td></td><td></td></tr></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	12.300	0.000	0.000	0.000	RDT&E Articles Quantity	1			
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	12.300	0.000	0.000	0.000															
RDT&E Articles Quantity	1																		
Fabricate Assembly and test Magazine Engineering Development Model (EDM).																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;"></td><td style="width: 10%; text-align: center;">FY 04</td><td style="width: 10%; text-align: center;">FY 05</td><td style="width: 10%; text-align: center;">FY 06</td><td style="width: 10%; text-align: center;">FY 07</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">9.253</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	9.253	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	9.253	0.000	0.000	0.000															
RDT&E Articles Quantity																			
Conduct Upper Gun Mount EDM Testing																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;"></td><td style="width: 10%; text-align: center;">FY 04</td><td style="width: 10%; text-align: center;">FY 05</td><td style="width: 10%; text-align: center;">FY 06</td><td style="width: 10%; text-align: center;">FY 07</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">7.823</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	7.823	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	7.823	0.000	0.000	0.000															
RDT&E Articles Quantity																			
Fabricate Assembly and Test Integration System Control (ISC).																			

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 4009 - Advanced Gun System (AGS)																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">12.640</td><td style="text-align: center;">20.328</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	12.640	20.328	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	12.640	20.328	0.000	0.000															
RDT&E Articles Quantity																			
Continue LRLAP EDM development and testing.																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">5.443</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	5.443	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	5.443	0.000	0.000	0.000															
RDT&E Articles Quantity																			
Support Ship Design development with Gun, Magazine, LRLAP integration efforts.																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">18.466</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	18.466	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	18.466	0.000	0.000															
RDT&E Articles Quantity																			
Commence integration of Gun, Magazine, ISC EDMs.																			

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 4009 - Advanced Gun System (AGS)		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	7.157	0.000	0.000
RDT&E Articles Quantity				
Commence Land Based testing of AGS EDM.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	36.812	37.003
RDT&E Articles Quantity				
LRLAP System Design and Development.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	5.000	5.000
RDT&E Articles Quantity				
LRLAP Qualification and Development testing.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	5.000	5.000
RDT&E Articles Quantity				
AGS Qualification				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 4009 - Advanced Gun System (AGS)																																																																			
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;"></th> <th style="text-align: right; width: 10%;">FY 2004</th> <th style="text-align: right; width: 10%;">FY 2005</th> <th style="text-align: right; width: 10%;">FY 2006</th> <th style="text-align: right; width: 10%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY 2005 President's Budget</td> <td style="text-align: right;">50.410</td> <td style="text-align: right;">46.455</td> <td style="text-align: right;">46.641</td> <td style="text-align: right;">46.717</td> </tr> <tr> <td>FY 2006/2007 President's Budget</td> <td style="text-align: right;">47.459</td> <td style="text-align: right;">45.951</td> <td style="text-align: right;">46.812</td> <td style="text-align: right;">47.003</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-2.951</td> <td style="text-align: right; border-top: 1px solid black;">-0.504</td> <td style="text-align: right; border-top: 1px solid black;">0.171</td> <td style="text-align: right; border-top: 1px solid black;">0.286</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional undistributed reductions</td> <td></td> <td style="text-align: right;">-0.447</td> <td></td> <td></td> </tr> <tr> <td> SBIR/STTR Transfer</td> <td style="text-align: right;">-1.266</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Inflation Adjustments</td> <td style="text-align: right;">-0.047</td> <td></td> <td style="text-align: right;">0.415</td> <td style="text-align: right;">0.540</td> </tr> <tr> <td> Execution Realignments</td> <td style="text-align: right;">-1.511</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Cancelled Accounts</td> <td style="text-align: right;">-0.127</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Miscellaneous</td> <td></td> <td style="text-align: right;">-0.057</td> <td style="text-align: right;">-0.244</td> <td style="text-align: right;">-0.254</td> </tr> <tr> <td> Subtotal</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-2.951</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.504</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">0.171</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">0.286</td> </tr> </tbody> </table> <p>Schedule:</p> <p style="margin-left: 40px;">Not Applicable</p> <p>Technical:</p> <p style="margin-left: 40px;">Not Applicable</p>						FY 2004	FY 2005	FY 2006	FY 2007	Funding:					FY 2005 President's Budget	50.410	46.455	46.641	46.717	FY 2006/2007 President's Budget	47.459	45.951	46.812	47.003	Total Adjustments	-2.951	-0.504	0.171	0.286	Summary of Adjustments					Congressional undistributed reductions		-0.447			SBIR/STTR Transfer	-1.266				Inflation Adjustments	-0.047		0.415	0.540	Execution Realignments	-1.511				Cancelled Accounts	-0.127				Miscellaneous		-0.057	-0.244	-0.254	Subtotal	-2.951	-0.504	0.171	0.286
	FY 2004	FY 2005	FY 2006	FY 2007																																																																	
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R-1 SHOPPING LIST - Item No. 101

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME		
RDT&E, N / BA-5				PE 0604300N - DD(X) Total Ship Systems Engineering				4009 - Advanced Gun System (AGS)		

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
PE 0603513N / Shipboard Sys Component De	35.425	45.254	22.150	16.420	19.271	19.535	19.780	19.942	CONT	CONT
BLI 2211900 / SCN	0.000	304.281	715.992	2,567.960	2,814.869	2,542.584	2,629.878	2,186.346	CONT	CONT

E. ACQUISITION STRATEGY:

(U) The Navy conducted a comparison of concepts for the DD(X) Advanced Gun System, the results of which were reported to Congress by SECNAV on 10/99. The Advanced Gun System will be acquired in conjunction with the DD(X) development schedule. Initial phases were conducted under section 845/804 other transaction authority. Initial phases include: Phase I – Concept Formulation, Phase II - Initial Prototype Development. Downselection to a single DD(X) Design Agent occurred in 3rd quarter FY02 to begin Phase III. The AGS EDM development will continue under this contract. The AGS Development, Qualification and Transition to Production will complete under the DD(X) Phase IV contract . This contract will also include procurement of the AGS for DD(X) Leadship.

F. MAJOR PERFORMERS:

Contractors - United Defense Limited Partnership and DD(X) Design Agent - Northrop Grumman Ship Systems

Field Activities - NSWC Carderock, NSWC Dahlgren, NSWC Port Hueneme, NSWC Port Hueneme Louisville detachment, NSWC Indian Head

Universities - N/A

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY						PROGRAM ELEMENT				PROJECT NUMBER AND NAME				
RDTE&E, N / BA-5						PE 0604300N - DD(X) Total Ship Systems Engineering				4009 - Advanced Gun System (AGS)				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date (1)	FY 05 Cost	FY 05 Award Date (1)	FY 06 Cost	FY 06 Award Date (2)	FY 07 Cost	FY 07 Award Date (2)	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	CPAF	DD(X) Design Agent	157.342	43.893	1QFY04	41.449	1QFY05	40.000	1QFY06	40.000	1QFY07			242.684
	845/804	DD(X) Industry Teams	177.435									0.000	177.435	177.435
Ship Integration	TBD	TBD											CONT.	
Ship Suitability													0.000	
Systems Engineering													0.000	
Training Development													0.000	
Licenses													0.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal Product Development			334.777	43.893		41.449		40.000		40.000		CONT.	CONT.	
Remarks: (1) The DD(X) Design Agent contract was awarded in April 2002.														
Development Support													0.000	
Software Development													0.000	
Training Development													0.000	
Integrated Logistics Support													0.000	
Configuration Management													0.000	
Technical Data													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														

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Exhibit R-3, RDTEEN Cost Analysis
(Exhibit R-3, page 50 of 61)

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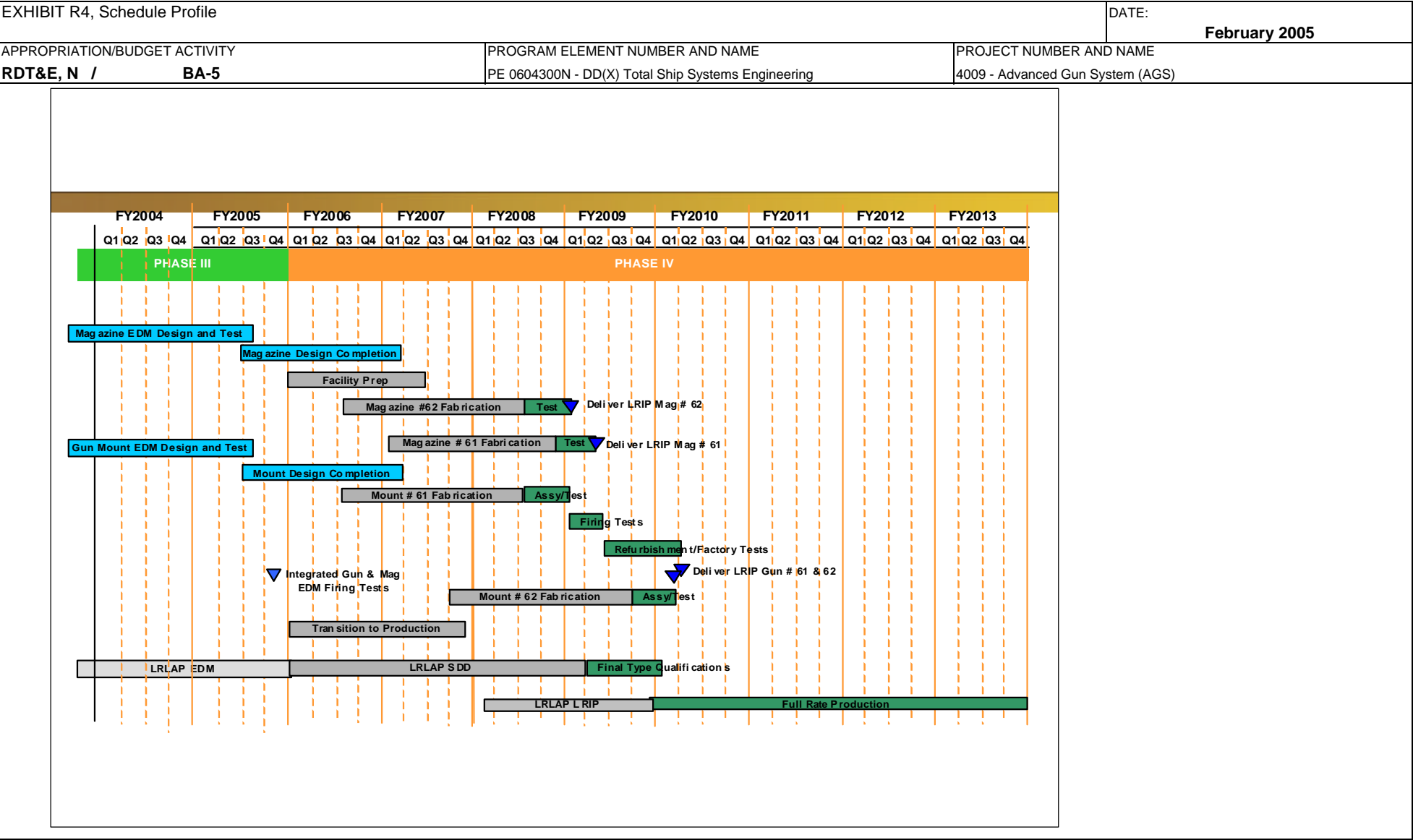
Exhibit R-3 Cost Analysis (page 2)											DATE: February 2005			
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Developmental Test Evaluation													0.000	
													0.000	
													0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
Contractor Engineering Support	GSA/CPFF	Anteon Arlington VA	5.220	1.228	10/03	0.578	10/04	1.641	10/05	1.717	10/06	Continuing	Continuing	
Government Engineering Support	WX	NSWC DD Dahlgren VA	14.011	1.051	10/03	2.496	10/04	2.332	10/05	2.314	10/06	Continuing	Continuing	
	WX	NSWC PHD Pt Hueneme CA	6.942	0.900	10/03	1.103	10/04	2.339	10/05	2.472	10/06	Continuing	Continuing	
	WX	Other Gov't Activities	10.824	0.387	Various	0.325	Various	0.500	10/05	0.500	10/06	Continuing	Continuing	
Program Management Support														
Travel														
Labor (Research Personnel)														
SBIR Assessment														
Subtotal Management			36.997	3.566		4.502		6.812		7.003		0.000	52.068	
Total Cost			371.774	47.459		45.951		46.812		47.003		0.000	512.187	
Remarks:														

R-1 SHOPPING LIST - Item No. 101

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Exhibit R-3, RDTE&E Cost Analysis
(Exhibit R-3, page 51 of 61)

CLASSIFICATION:



R-1 SHOPPING LIST - Item No. 101

SHOPPING LIST - Item No. **UNCLASSIFIED**

R-1 SHOPPING LIST - Item No.

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(Exhibit R-4a, page 53 of 61)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604300N/ DD(X) Total Ship Sys Engineering			PROJECT NUMBER AND NAME 4010/Integrated Power Systems on DD(X)			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	69.114	59.495	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty	0	0	0	0	0	0	0	0
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project provides funds to develop and test integrated power system Engineering Development Modules (EDMs) for DD (X) including Permanent Magnet (PM) motor and motor drive technologies. On 6 January 2000, SECNAV announced Navy intent that DD(X) be an electric drive ship with integrated power architecture. IPS reduces acquisition and operating costs of naval ships and increases military effectiveness. IPS provides total ship electric power, including electric propulsion, power conversion and distribution, and mission load interfaces to the electric power system. IPS leverages investments in technologies that will be useable by both military and commercial sectors.</p> <p>- (U) IPS has the potential to revolutionize the design, construction, and operation of U.S. naval ships by using electricity as the primary energy transfer medium aboard ship. The flexibility of electric power transmission allows power generating modules with various power ratings to be connected to propulsion loads and ship service in any arrangement that supports the ship's mission at lowest overall cost. Systems engineering in IPS is focused on increasing the commonality of components used across ship types and in developing modules which will be integral to standardization, zonal system architectures, and generic shipbuilding strategies. The purpose of increased commonality is to reduce the total cost of ship ownership by using common modules composed of standard components and/or standard interfaces.</p> <p>- (U) IPS addresses ship platform program goals through: reduced ship acquisition cost through integration of propulsion and ship's service prime movers; lower ship operational costs resulting from more flexible operating characteristics and more efficient components; reduced ship construction costs by allowing more extensive modular construction of power generation, distribution, and loads; improved ship survivability and reduced vulnerability through increased arrangement flexibility and improved electrical system survivability; reduced manning through improved power management systems and reduced on-board maintenance requirements; improved ship signature characteristics; improved design adaptability to meet future requirements of multiple ship types or missions; integrating power management and protection by fully utilizing the power electronics in the system to perform fault protection as well as power conversion and load management functions; simplified technology insertion which allows new technologies to be installed within IPS much less expensively than presently possible; and, reduced machinery system acquisition costs through utilization of commercially shared technologies and components.</p>								

R-1 SHOPPING LIST - Item No.

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 54 of 61)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604300N/ DD(X) Total Ship Sys Engineering	PROJECT NUMBER AND NAME 4010/Integrated Power Systems on DD(X)		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	69.114	59.495	0.000	0.000
RDT&E Articles Quantity	0	0	0	0
<p>Platform Specific Development: Fabricate DD(X) IPS Engineering Development Model (EDM) for land based testing. Perform factory acceptance tests of major components. In support of DD(X) IPS EDM land based testing, complete test site preparations and prepare test plans. Deliver DD(X) IPS EDM to land based. Install, checkout, integrate and conduct testing.</p>				

R-1 SHOPPING LIST - Item No.

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 55 of 61)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																													
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604300N/ DD(X) Total Ship Sys Engineering	PROJECT NUMBER AND NAME 4010/Integrated Power Systems on DD(X)																																																														
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 35%;">Funding:</th> <th style="text-align: right; width: 15%;">FY 2004</th> <th style="text-align: right; width: 15%;">FY 2005</th> <th style="text-align: right; width: 15%;">FY 2006</th> <th style="text-align: right; width: 15%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>FY 2005 President's Budget</td> <td style="text-align: right;">72.202</td> <td style="text-align: right;">60.068</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>FY 2006/2007 President's Budget</td> <td style="text-align: right;">69.114</td> <td style="text-align: right;">59.495</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-3.088</td> <td style="text-align: right; border-top: 1px solid black;">-0.573</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional undistributed reductions</td> <td></td> <td style="text-align: right;">-0.560</td> <td></td> <td></td> </tr> <tr> <td> SBIR/STTR Transfer</td> <td style="text-align: right;">-2.006</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Inflation Adjustments</td> <td style="text-align: right;">-0.067</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Execution Realignment</td> <td style="text-align: right;">-0.832</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Cancelled Accounts</td> <td style="text-align: right;">-0.183</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Miscellaneous</td> <td></td> <td style="text-align: right;">-0.013</td> <td></td> <td></td> </tr> <tr> <td> Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">-3.088</td> <td style="text-align: right; border-top: 1px solid black;">-0.573</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> </tr> </tbody> </table> <p>Schedule:</p> <p style="margin-left: 40px;">Not Applicable</p> <p>Technical:</p> <p style="margin-left: 40px;">Not Applicable</p>					Funding:	FY 2004	FY 2005	FY 2006	FY 2007	FY 2005 President's Budget	72.202	60.068	0.000	0.000	FY 2006/2007 President's Budget	69.114	59.495	0.000	0.000	Total Adjustments	-3.088	-0.573	0.000	0.000	Summary of Adjustments					Congressional undistributed reductions		-0.560			SBIR/STTR Transfer	-2.006				Inflation Adjustments	-0.067				Execution Realignment	-0.832				Cancelled Accounts	-0.183				Miscellaneous		-0.013			Subtotal	-3.088	-0.573	0.000	0.000
Funding:	FY 2004	FY 2005	FY 2006	FY 2007																																																												
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R-1 SHOPPING LIST - Item No. 101

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5				PROGRAM ELEMENT NUMBER AND NAME 0604300N/ DD(X) Total Ship Sys Engineering			PROJECT NUMBER AND NAME 4010/Integrated Power Systems on DD(X)			

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
PE 0603513N / Shipboard Sys Component De	35.425	45.254	22.150	16.420	19.271	19.535	19.780	19.942	CONT	CONT
BLI 2211900 / SCN	0.000	304.281	715.992	2,567.960	2,814.869	2,542.584	2,629.878	2,186.346	CONT	CONT

E. ACQUISITION STRATEGY:

(U) IPS is a candidate system for DD(X) and all other future surface ships.

F. MAJOR PERFORMERS:

IPS DD(X) Design Agent, Northrop Grumman Ship Systems

R-1 SHOPPING LIST - Item No. 101

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CLASSIFICATION:

[illegible]

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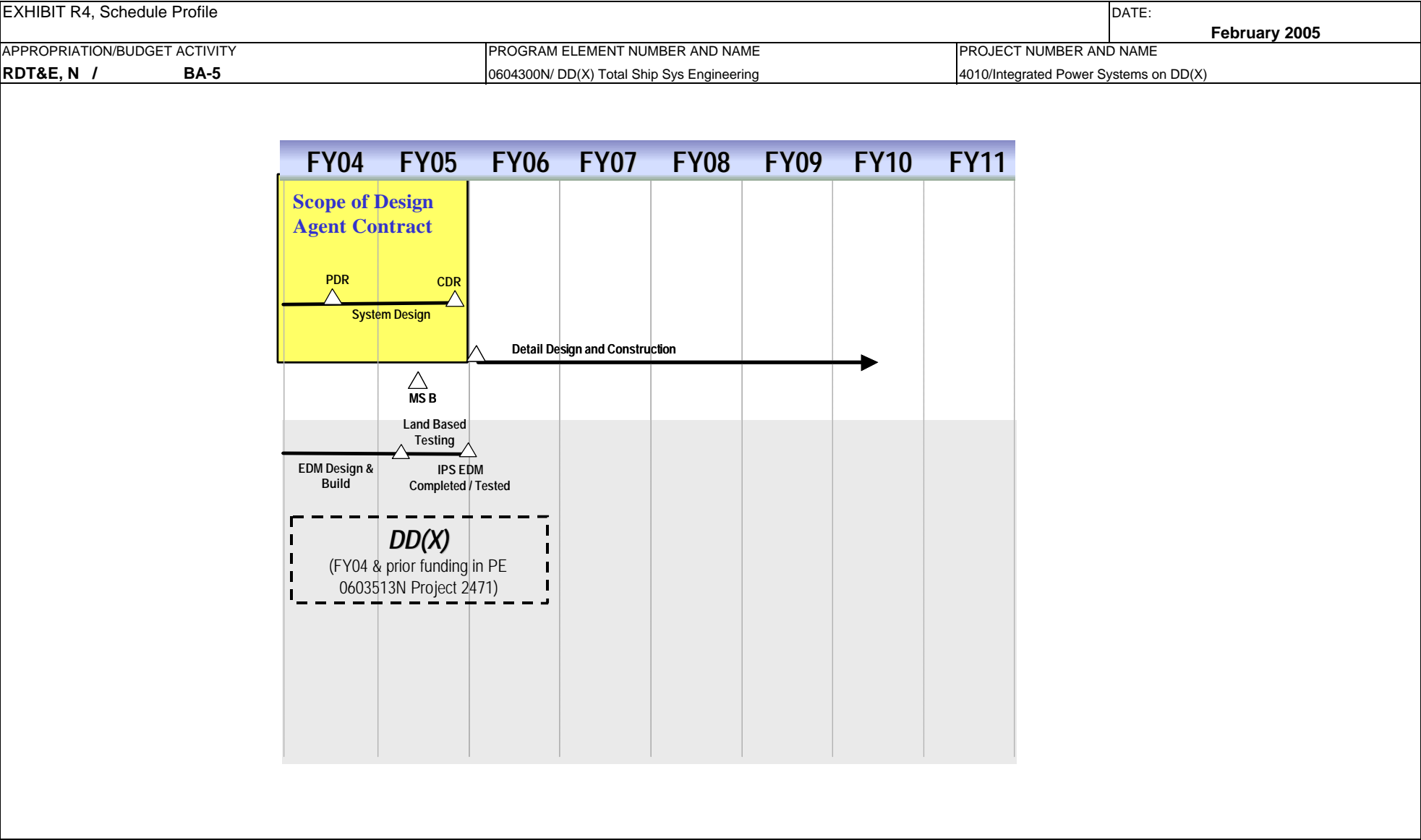
CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5						PROGRAM ELEMENT 0604300N/ DD(X) Total Ship Sys Engineering				PROJECT NUMBER AND NAME 4010/Integrated Power Systems on DD(X)				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation														
Operational Test & Evaluation														
Test Assets														
Tooling														
GFE														
Award Fees														
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		CONT	CONT	
Remarks:														
Contractor Engineering Support													0.000	
Government Engineering Support													0.000	
Program Management Support													0.000	
Travel													0.000	
Labor (Research Personnel)													0.000	
SBIR Assessment													0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000		CONT	CONT	
Remarks:														
Total Cost			221.161	69.114		59.495		0.000		0.000		CONT	CONT	
Remarks:														

R-1 SHOPPING LIST - Item No. 101

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CLASSIFICATION:



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Exhibit R-4a, RDTEN Schedule Detail
(Exhibit R-4a, page 61 of 61)

R-1 SHOPPING LIST - Item No. 101

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /					R-1 ITEM NOMENCLATURE 0604307N/AEGIS COMBAT SYSTEM ENGINEERING			
BA-5								
COST (in Millions)	FY2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	215.584	157.159	216.313	227.951	254.972	235.232	255.320	273.179
1447/Surface Combatant Combat System Imp./AEGIS Open Arch.	199.232	143.889	203.837	182.518	132.704	87.761	98.928	90.720
1776/Surface Combatant Weapon System Mods	0.445	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3044/Solid State Spy Radar/Improved Readiness AN/SPY-1	11.383	3.265	12.476	45.433	122.268	147.471	156.392	182.459
9223/Silicon Carbide MMIC Production	1.249	2.971	0.000	0.000	0.000	0.000	0.000	0.000
9381/Deployable Smartlink Comm Upgrades	1.931	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9382/Integrated Logistics (IDESC)	0.385	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9383/Smart Integration Data Env. (SIDE)	0.959	0.989	0.000	0.000	0.000	0.000	0.000	0.000
9555/AEGISTraveling Wave Tube Circuit	0.000	1.785	0.000	0.000	0.000	0.000	0.000	0.000
9556/Integrated Display & Enhanced Architecture (IDEA)	0.000	4.260	0.000	0.000	0.000	0.000	0.000	0.000
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
<p>The AEGIS Combat System (ACS) provides immediate and effective capability to counter the current and expected air, surface, and sub-surface threats. Changes in the threat capability and advances in technology such as fiber optics, local area networks, and high performance computing require corresponding AEGIS Weapon System (AWS) and ACS changes. This program provides the ACS engineering and weapon system developments necessary for a continued increase in the capability of AEGIS Cruisers and Destroyers. In addition to developing and integrating improvements to the AWS, this program integrates combat capabilities developed in other Navy R&D programs into the ACS. Modifications of AWS computer programs must be made to integrate these capabilities into the ACS so that battle effectiveness and ACS performance will be retained against the evolving threat. Selected AWS and ACS upgrades will be backfitted into CG 47 Class and DDG 51 Class ships already in the Fleet, providing new key warfighting capability while reducing life cycle maintenance costs. In addition, with the advent of using Commercial Off-the-Shelf (COTS) equipment extensively throughout the combat system, COTS refresh development efforts will be necessary to pace the core Baseline development work and are included. This Program Element includes the CG/DDG Open Architecture (OA) effort, including rearchitected computer programs, to the AEGIS fleet. CG/DDG OA positions the AEGIS fleet for maximum warfighting improvements and life cycle support benefit and produces a system, which is considerably less difficult to maintain and modernize and mitigates the cost of inevitable required and repetitive technology refresh. The DDG Modernization Program will identify and introduce OA Category-3 compliant hardware and software. As part of the Naval Integrated Fire Control Counter Air (NIFC-CA) program, SM-6 integration efforts will begin in FY06.</p>								

R-1 SHOPPING LIST - Item No. 102

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EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NAME AND NUMBER AEGIS COMBAT SYS ENG PE 0604307N				R-1 ITEM NOMENCLATURE 1447 Surface Combatant Combat System Improvements					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Total Cost
Surface Combatant Combat Sys/1447	199.232	143.889	203.837	182.518	132.704	87.761	98.928	90.720	CONT.	CONT.
RDT&E Articles Qty Not Applicable										

A. Mission Description and Budget Item Justification:

This program provides Cruiser and Destroyer ACS upgrades and integrates new equipment and systems to pace the threat and capture advances in technology. Examples of captured advanced technologies are: fiber optics, distributed architecture, and high performance computing, all of which require corresponding AWS and ACS changes. ACS is upgraded in Baselines. Baseline 2 (CG 52-58) consists of the Vertical Launching System, TOMAHAWK Weapon System, and Anti-Submarine Warfare upgrades. Baseline 3 (CG 59-64) includes the AN/SPY-1B Radar and AN/UYQ-21 consoles. Baseline 4 (CG 65-73) integrates the AN/UYK-43/44 computers with superset computer programs developed for the DDG 51. Baseline 5 was introduced in FY 1992 ships and includes the Joint Tactical Information Distribution System (JTIDS) Command and Control Processor, Tactical Data Information Link 16, Combat Direction Finding, Tactical Data Information Exchange System, AN/SLQ-32 (V)3 Active Electronic Counter Countermeasures, and AEGIS Extended Range (ER) Missile. Baseline 5 was developed in two steps (Phases): Phase I integrated AEGIS ER and supported the missile Initial Operational Capability; Phase III integrated system upgrades including Defensive Electronic Attack, Track Load Control algorithms, and Track Initiation Processor (integrated on 5.3, DDGs 68+); JTIDS and the OJ-663 color display Tactical Graphics capability into the ACS. Baseline 6 Phase I supported OPEVAL of CEC in CGs 66 and 69 and was introduced in the DDG 51 class beginning with DDG 79. Baseline 6 Phase III was introduced on DDG 85. Baseline 6 Phase III upgrades include embarked helicopters, Fiber Optics as applied to Data Multiplexing (FODMS), implementation of affordability initiatives, the Radar Set Controller Environmental Simulator (RSCES) and Battle Force Tactical Trainer (BFTT), Advanced Display System, Evolved SeaSparrow Missile (ESSM), Identification (ID) upgrades Phase I, Advanced TOMAHAWK Weapon System (ATWCS) Phase II, Fire Control System Upgrades, and the Joint Maritime Command Information System (JMCIS). Baseline 7 Phase I is installed in the DDG 51 class beginning with DDG 91. Major Baseline 7 upgrades include but are not limited to introduction and integration of a new radar (AN/SPY-1D(V) upgrade), COTS-based advanced computer processing and the Remote Mine Hunting System. The Cruiser Modernization program will upgrade cruisers to provide enhanced Air Dominance and C4I improvements, enhances the Gun Weapon System capability, improves force protection and provides COTS computing architecture to introduce Open Architecture. Experiences aboard AEGIS ships and shore sites have shown that COTS equipment will require a nominal four year cyclical refresh (periodic replacement) plan. This is a fact of life. Currently, these refresh efforts are not "plug and play;" rather they require additional developmental efforts that will necessitate replacement of new components with updated operating systems, device drivers, and interfaces. This program introduces a CG/DDG Open Architecture (OA) effort, including rearchitected computer program components, in accordance with Navy Open Architecture guidance and standards to the AEGIS fleet. CG/DDG OA positions the AEGIS fleet for maximum warfighting improvements and life cycle support benefit and produces a system, which is considerably less difficult to maintain and modernize and mitigates the cost of inevitable required and repetitive technology refreshes. The DDG Modernization Program will identify and introduce OA Category-3 compliant hardware and software. As part of the Naval Integrated Fire Control Counter Air (NIFC-CA) program, SM-6 integration efforts will begin in FY06. Due to FY05 Congressional action, the Baseline 7 Phase 1C effort originally targeted for fielding in FY06 has been replanned. The replanned development effort, Cruiser Modernization CR2 (CGM CR2), is targeted for fielding in FY08 on B/L 2 CGs and B/L 3/4 CGs in FY11 and highly leverages AOA and DDG Modernization efforts and funding.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604307N/AEGIS COMBAT SYSTEM ENGINEERING	PROJECT NUMBER AND NAME 1447 Surface Combatant Combat System Improvements		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Efforts/Subtotal Cost	26.000	27.196	0.000	0.000
RDT&E Articles Quantity				
<p>Accomplishments: Continued maturation of Baseline 7 Phase I in support of Land Based SPY-1D(V) DT/OT and DDG 91-102 ship building milestones. Conducted demonstration of Baseline 7 Phase I capabilities. Included support of AWS Baseline Replan initiatives: capture of high priority CPCR fixes into Baseline 7 Phase I variants (71C, 71R); reducing number of deficiency workarounds; NSWC-DD Forward Engineering Test Team and SPY-1D (V) TECHEVAL.</p> <p>Planned: SPY-1D(V) OPEVAL and Deployment certification.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Efforts/Subtotal Cost	17.374	27.751	17.160	0.000
RDT&E Articles Quantity				
<p>Accomplishments: Continued coding, debugging and testing of Baseline 7 Phase I COTS Refresh necessary for fielding DDGs 103-112. Conducted computer program Critical Design Review and Production Test Center Readiness Review. Implementation path for AEGIS CG/DDG Open Architecture (OA) products., developed a plan for integration of AOA products.</p> <p>Planned: Continue to code, debug and conduct element test and multi-element integration tests, including CEC 2.1, culminating in a demo in 2Q FY06.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Efforts/Subtotal Cost	51.752	45.725	97.200	74.000
RDT&E Articles Quantity				
<p>Accomplishments: Baseline 7 phase II evolved into a three Spiral development effort to implement CG/DDG Open Architecture (OA) by providing open architected elements to the AEGIS Fleet earlier. This effort re-architects Aegis computer program for the following elements: SPY (Radar), AEGIS Display System (ADS), and Weapon Control System (WCS) in accordance with and compliant with Navy Open Architecture specifications and standards. Incrementally introducing the re-architected products in a spiral fashion in 7 Phase 1 Refresh (DDG103+) and Cruiser Modernization COTS Refresh 2 (CGM CR2) (Baseline 2 Cruisers). Successfully demonstrated design and code portability and reuse of the preliminary SPY OA elements.</p> <p>Planned: Conduct Lifecycle Architecture Review (LAR) for Spiral Two. Deliver OA display products (ATDU, HAIL-SS, etc.) for incorporating into B/L 7.1 R.</p>				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604307N/AEGIS COMBAT SYSTEM ENGINEERING	PROJECT NUMBER AND NAME 1447 Surface Combatant Combat System Improvements																	
B. Accomplishments/Planned Program (Cont.)																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Efforts/Subtotal Cost</td> <td>64.407</td> <td>9.971</td> <td>22.820</td> <td>18.518</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Efforts/Subtotal Cost	64.407	9.971	22.820	18.518	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Efforts/Subtotal Cost	64.407	9.971	22.820	18.518															
RDT&E Articles Quantity																			
<p>Accomplishments: Began design of Cruiser Modernization CGM CR2 effort now targeted for Baseline 2 Cruisers in FY08 and applicable to Baseline 3/4 Cruisers in FY11. Effort highly leveraged to AOA and DDG Mod.</p> <p>Planned: Design, code, debug and test Cruiser unique modifications associated with interfacing to AOA products and computer program.</p>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Efforts/Subtotal Cost</td> <td>24.222</td> <td>* 13.488</td> <td>20.000</td> <td>20.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Efforts/Subtotal Cost	24.222	* 13.488	20.000	20.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Efforts/Subtotal Cost	24.222	* 13.488	20.000	20.000															
RDT&E Articles Quantity																			
<p>Accomplishments/Planned: Continued to provide the RDT&E share of operations and maintenance of the Combat System Engineering Development Site(CSEDs), Program Generation Center, Computer Program Test Site, and Land Based Test Site.</p> <p>* \$7.5M of FY04 funds used to finance FY05 requirement.</p>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Efforts/Subtotal Cost</td> <td>15.477</td> <td>19.758</td> <td>7.621</td> <td>12.400</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Efforts/Subtotal Cost	15.477	19.758	7.621	12.400	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Efforts/Subtotal Cost	15.477	19.758	7.621	12.400															
RDT&E Articles Quantity																			
<p>Accomplishments/Planned: Provided funds for labs and field activities to support forward fit and backfit baseline upgrades in order to conduct engineering and scientific studies and analysis to minimize the risk in the introduction of increased warfighting capability. Studies produced by the Applied Physics Lab and the NSWC-DD ensure effective management of COTS. NSWC-DD personnel also provide on site technical support at contractor facilities during development, testing, and evaluation of upgrades to the ACS.</p>																			

R-1 SHOPPING LIST - Item No. 102

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, 4 of 42)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604307N/AEGIS COMBAT SYSTEM ENGINEERING	PROJECT NUMBER AND NAME 1447 Surface Combatant Combat System Improvements																	
B. Accomplishments/Planned Program (Cont.)																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Efforts/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">3.500</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Efforts/Subtotal Cost	0.000	0.000	0.000	3.500	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Efforts/Subtotal Cost	0.000	0.000	0.000	3.500															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; min-height: 50px; margin-top: 5px;"></div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Efforts/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">15.700</td><td style="text-align: center;">14.100</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Efforts/Subtotal Cost	0.000	0.000	15.700	14.100	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Efforts/Subtotal Cost	0.000	0.000	15.700	14.100															
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Efforts/Subtotal Cost	0.000	0.000	23.336	40.000															
RDT&E Articles Quantity																			
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R-1 SHOPPING LIST - Item No. 102

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N / BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING	1447 Surface Combatant Combat System Improvements		
C. PROGRAM CHANGE SUMMARY:				
Funding:	FY 2004	FY 2005	FY 2006	FY 2007
Previous President's Budget: (FY05 Pres Controls)	205.400	146.463	169.091	167.041
Current President's Budget: (FY06/07 Pres Controls)	199.232	143.889	203.837	182.518
Total Adjustments	-6.168	-2.574	34.746	15.477
Summary of Adjustments - POM 06:				
Programmatic Adjustments		-0.264	34.746	15.477
Undistributed Congressional Reductions	-2.536	-1.31		
AEGIS Open Architecture	2.500			
FY04 SBIR	-4.214			
Reprogramming to FY05 Naval Studies		-1.000		
Execution Realignment	-1.405			
Cancelled Account	-0.513			
Subtotal	-6.168	-2.574	34.746	15.477
Schedule:				
1) Baseline 7 Phase 1 deployment cert moved to 3Q FY05				
2) SPY-1D(V) OPEVAL moved to 4Q FY05.				
3) IDR added for DDG Modernization.				
4) Adjusted 7 Phase 1C schedule to reflect Cruiser Modernization COTS Refresh 2 (CGM CR2) effort.				
Technical:				
N/A				

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, 6 of 42)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604307N/AEGIS COMBAT SYSTEM ENGINEERING			PROJECT NUMBER AND NAME 1447 Surface Combatant Combat System Improvements				

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To</u> <u>Complete</u>	<u>Total</u> <u>Cost</u>
SCN LI2122 - DDG 51	3,193.0	3,431.0	225.4	327.5	40.2				Cont.	Cont.
OPN LI5246 - AEGIS Supt. Eqp	94.9	70.7	98.9	81.6	107.1	139.0	184.0	173.1	Cont.	Cont.
OPN LI0900 - DDG Mod			3.0	3.8	58.9	210.8	218.0	255.8	Cont.	Cont.

E. ACQUISITION STRATEGY:

Combat System Improvements are implemented in Baselines as described in the project mission statement. In FY 1998, Lockheed Martin was awarded a five year omnibus contract (sole source) to develop and integrate combat system improvements, which will fund all remaining AEGIS Baseline Upgrade Development efforts. After the baseline has been completed and tested, the computer program and associated equipment are delivered to the new construction shipbuilders where the program and equipment are installed and tested along with all other elements of the shipboard combat system and associated combat support systems. The computer program is a GFE deliverable to the Production Test Center for equipment test and check out.

3.237

F. MAJOR PERFORMERS:

Lockheed Martin, Moorestown, NJ (Combat System Design Agent/Prime Contractor)
NSWC/DD, Dahlgren, VA (Lifetime Support Engineering Agent)

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, 7 of 42)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)							DATE: February 2005							
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-5			0604307N/AEGIS COMBAT SYSTEM ENGINEERING			1447 Surface Combatant Combat System Improvements								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Systems Engineering	SS/CPAF	Lockheed, Moorestown, NJ	887.166	117.148	01/04	92.443	01/05	143.604	01/06	129.189	01/07	Cont.	Cont.	
Systems Engineering	SS/CPFF	APL, Baltimore MD	27.643	0.800	10/03	0.240	10/04	0.950	10/05	0.817		Cont.	Cont.	
Systems Engineering	WR/RCP	NSWC, Dahlgren VA	157.819	42.813	11/03	17.442	11/04	27.650	11/05	24.415		Cont.	Cont.	
Systems Engineering	BPA	PCI, VA Beach, VA	11.394	2.175	10/03	0.000		0.000		0.000		Cont.	Cont.	
Systems Engineering	SS/CPAF	BAE Systems, Rockville, MD		0.000		3.294	10/04							
Systems Engineering	WR	NSWC, PHD CA	21.867	3.628	11/03	2.087	11/04	2.149	11/05	1.848		Cont.	Cont.	
Systems Engineering	WR/RCP	NWAS, Corona CA	16.559	2.650	11/03	1.011	11/04	1.541	11/05	1.325		Cont.	Cont.	
Systems Engineering	SS/CPAF	General Dynamics	35.014	1.596	06/04	0.000		0.000		0.000		Cont.	Cont.	
Systems Engineering	WR	SPAWAR	4.764	0.936	11/03	0.662	11/04	0.977	11/05	0.840		Cont.	Cont.	
Systems Engineering	CPFF	Techmatics	2.000	0.000		0.000		0.000		0.000				
Systems Engineering	WR/RCP	Dam Neck	7.015	0.500	Various	0.000		0.000		0.000		Cont.	Cont.	
Systems Engineering	WR/RCP	Miscellaneous	35.126	1.200	Various	0.500	Various	0.780		0.670		Cont.	Cont.	
Award Fees	SS/CPAF	Lockheed, Moorestown, NJ	117.880	14.061	07/04	13.344	07/05	16.282	07/06	14.879		Cont.	Cont.	
Award Fees	SS/CPAF	BAE Systems, Rockville, MD	0.580			0.200	10/04						0.580	
Award Fees	SS/CPAF	Anteon, Washington, DC	0.000	0.000		0.200	10/04							
Award Fees	SS/CPAF	PCI, VA Beach, VA	0.625										0.625	
Award Fees	SS/CPAF	General Dynamics	3.721	0.100	06/04							Cont.	Cont.	
Award Fees	WR/RCP	Miscellaneous	2.790			3.237							2.790	
Subtotal Product Development			1331.963	187.607		134.660		193.933		173.983		Cont.	Cont.	
Support	CPFF	APL, Baltimore MD	8.401	0.530	10/03	0.438	10/04	0.535	10/05	0.460		Cont.	Cont.	
Support	WR	NSWC, Pt. Hueneme, CA	5.008	0.500	11/03	0.367	11/04	0.540	11/05	0.464		Cont.	Cont.	
Support	WR	NSWC, Dahlgren VA	2.727	0.060	Various	0.043	Various	0.150	Various	0.149		Cont.	Cont.	
Support	WR/RCP	Miscellaneous	8.234	1.500	Various	1.200	Various	1.236	Various	1.062		Cont.	Cont.	
Subtotal Support			24.370	2.590		2.048		2.461		2.135		Cont.	Cont.	

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, 8 of 42)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)												DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604307N/AEGIS COMBAT SYSTEM ENGINEERING			PROJECT NUMBER AND NAME 1447/9066 Surface Combatant Combat System								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Test and Evaluation	SS/CPAF	Lockheed, Moorestown, NJ	19.622	3.300	07/04	2.390	07/05	3.300	07/06	2.838	07/07	Cont.	Cont.	
Test and Evaluation	WR	NSWC, Pt. Hueneme, CA	6.840	0.750	11/03	0.547	11/04	0.800	11/05	0.688		Cont.	Cont.	
Test and Evaluation	CPFF	APL, Baltimore MD	3.500									Cont.	Cont.	
Test and Evaluation	WR/RCP	Miscellaneous	11.527	2.000	Various	2.829	Various	2.934	Various	2.523		Cont.	Cont.	
												Cont.	Cont.	
												Cont.	Cont.	
												Cont.	Cont.	
Subtotal T&E			41.489	6.050		5.766		7.034		6.049		Cont.	Cont.	
Remarks:														
Program Management Support	BPA	BAE Systems, Rockville MD	28.989	2.595	10/03	0.000		0.000		0.000		Cont.	Cont.	
		Anteon, Washington, DC	0.000	0.000		0.450	10/04							
	WR/RCP	Miscellaneous	7.246	0.390	Various	0.965	Various	0.409	Various	0.351	Various	Cont.	Cont.	
												Cont.	Cont.	
												Cont.	Cont.	
SBIR Assessment												Cont.	Cont.	
Subtotal Management			36.235	2.985		1.415		0.409		0.351		Cont.	Cont.	
Remarks:														
Total Cost			1,434.057	199.232		143.889		203.837		182.518		Cont.	Cont.	
Remarks:														

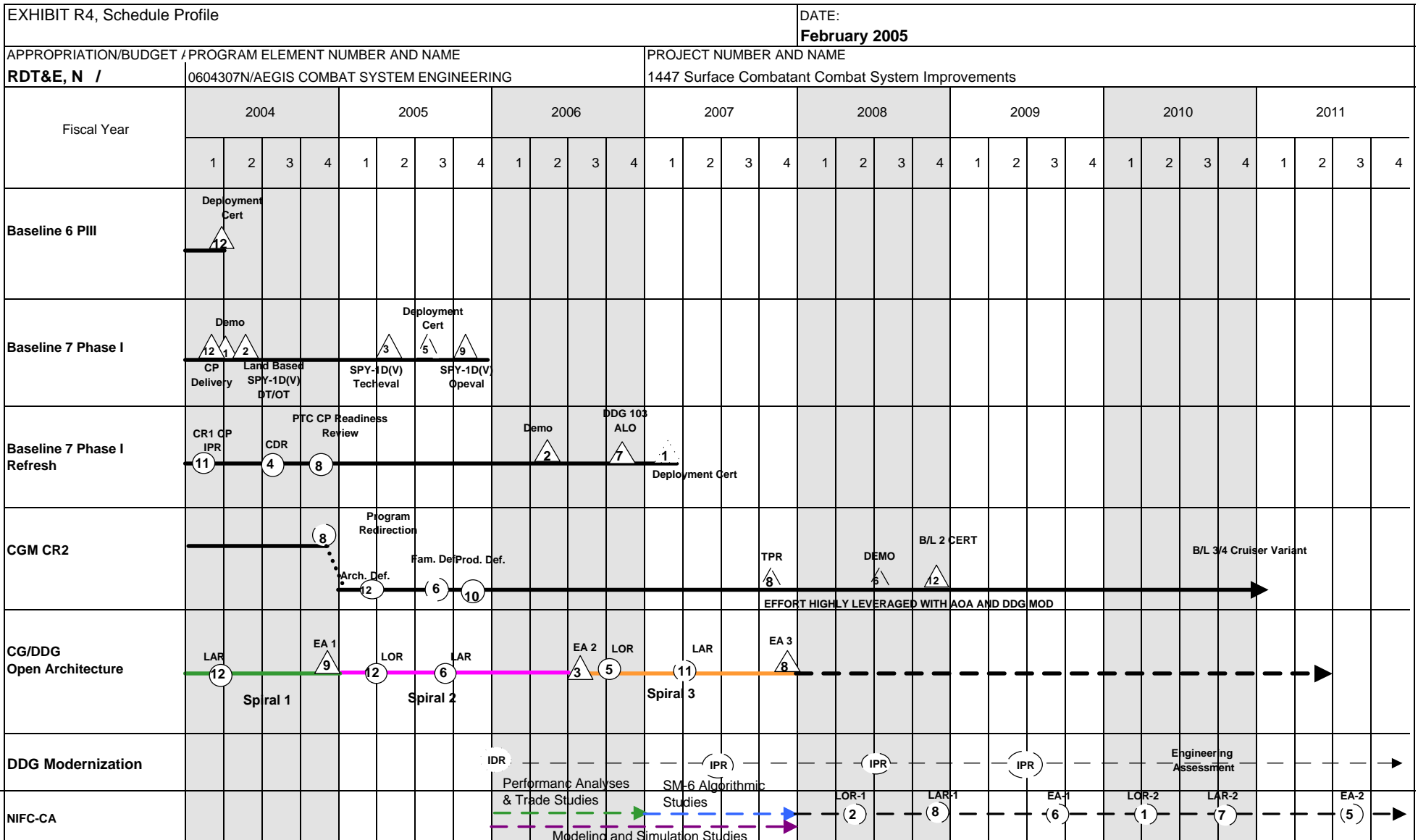
R-1 SHOPPING LIST - Item No. 102

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, 9 of 42)

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CLASSIFICATION:



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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, 10 of 42)

CLASSIFICATION:

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Exhibit R-4a, Schedule Detail					DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&BA-5	0604307N/AEGIS COMBAT SYSTEM ENGINEERING				1447 Surface Combatant Combat System Imp.			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
6 Phase III								
CP Deployment Cert	1Q							
7 Phase I								
CP Delivery	1Q							
Demo	2Q							
Land Based SPY-1D(V) DT/OT	2Q							
SPY-1D(V) Techeval	4Q							
SPY-1D(V) Opeval		4Q						
Deployment Cert		3Q						
7 Phase I Refresh								
CR 1 CP IPR	1Q							
CDR	3Q							
PTC CP Readiness Review	4Q							
Demo			2Q					
DDG 103 ALO			4Q					
CGM CR2								
Architecture Definition	4Q							
Family Definition		3Q						
Production Definition		1Q						
TPR				4Q				
Demo					3Q			
B/L 2 Cert						1Q		
CG/DDG Open Architecture								
LAR	1Q							
EA 1	4Q							
LOR		1Q						
LAR		3Q						
EA2			3Q					
LOR			4Q					
LAR				2Q				
EA3				4Q				
DDG Modernization								
IDR			1Q					
IPR				X	X	X		
EA							X	
NIFC-CA								
Performance Analyses and Trade Studies			1Q-4Q					
SM-6 Algorithmic Studies				1Q-4Q				
Modeling and Simulation Studies			1Q-4Q	1Q-4Q				
LOR-1					2Q			
LAR-1					4Q			
EA-1						3Q		
LOR-2							2Q	
LAR-2							4Q	
EA-2								3Q

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, 11 of 42)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Project Justification							DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604307N/AEGIS COMBAT SYSTEM ENG				PROJECT NUMBER AND NAME 1776/Surface Combatant Weapon Sys Mods			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	0.445	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty	0	0	0	0	0	0	0	0

MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

A. Mission Description

This program provides for modifications to the AWS MK-7 to counter the threat as articulated in ONI System Threat Assessment Report, ONI-TA-012-99 dated Oct 1999 and subsequent updates. The modifications will be introduced into CG 47 Class and DDG 51 Class ships.

EXHIBIT R-2, RDT&E Project Justification							DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604307N/AEGIS COMBAT SYSTEM ENG			PROJECT NUMBER AND NAME 3044/9223/9255 - Solid State SPY Radar				
COST (\$ in Millions)	FY 2004*	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	12.632	8.021	12.476	45.433	122.268	147.471	156.392	182.459
RDT&E Articles Qty	0	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:**SOLID STATE SPY RADAR / SILICON CARBIDE MMIC PRODUCIBILITY PROGRAM:**

The Solid State SPY Radar is being developed to support Theater Air and Missile Defense requirements as part of a next generation cruiser, CG(X), radar suite. The S-Band Solid State SPY Radar will provide multi-mission capabilities, supporting both long range, exoatmospheric detection, tracking and discrimination of ballistic missiles, as well as robust Ballistic Missile Defense and Self Defense against air and surface threats. For the BMD capability, increased radar sensitivity and bandwidth over the current SPY-1 system is needed to detect, track and support engagements of advanced ballistic missile threats at the required ranges. For the Ballistic Missile Defense and Self Defense capability, increased sensitivity and clutter rejection capability is needed to detect, react to, and engage stressing Very Low Observable /Very Low Flyer (VLO/VLF) threats in the presence of heavy land, sea, and rain clutter. This effort provides for the development of an S-Band solid state replacement for the SPY-1 Radar with the required capabilities to pace the evolving threat.

AN/SPY-1 READINESS IMPROVEMENT PROGRAM:

The SPY-1 Readiness Improvement program is the productizing of an intelligent automated maintenance tool, which will improve operational & combat effectiveness while improving system availability of the AN/SPY-1 Series radar. This intelligent maintenance tool, the Multi-Function Distributed Analysis Tool (MFDAT) will significantly reduce SPY-1 radar system alignment & maintenance time, increase system availability, and increase operational precision through more reliable alignment. The SPY-1 radar system is the Navy's primary radar for air defense and ballistic missile defense and will be so for the next 20+ years. This program will improve SPY-1 Series Radar operational availability and precision through the use of an automated, intelligent maintenance tool enabling the Sailor to maintain peak alignment and accurately diagnose and correct trouble conditions. The increase will allow for the transitioning of the MFDAT from the prototype developed under a SBIR Phase II program to full-scale production system capable of being fielded on combat naval vessels. The funding will complete the non-recurring engineering costs for engineering costs for development and provide production drawings, interface and maintenance documents, as well as calibration procedures.

AEGIS TRAVELING WAVE TUBE CIRCUIT:

This program defines the efforts necessary to identify and solve DMS issues 10KW traveling wave tube (TWT). In particular, changes to the slow wave structure will be identified that will provide an additional source for the slow wave structure used in the 10KW TWT.

CG(X) PROGRAM:**CG(X) transferred into P.E. 0604307N (3044) from P.E. 0604300N (3104)**

The CG(X) is a multi-mission ship required to perform self-defense, area air defense, and ballistic missile defense. The CG(X) must have a radar capable of operating in different environmental and mission regimes against a wide variety of potential targets and profiles. A scalable radar design with major improvements in power, sensitivity, resistance to natural and man-made environments over current radar systems is needed for multi-mission TAMD (BMD and Area AAW). Modularity of hardware and software, a designed in growth path for technology insertion, and Open Architecture (OA) Compliance are required for performance and technology enhancements throughout service life.

* FY 2004 includes: Silicon Carbide MMIC Producibility Program congressional add, Improved Readiness for AN/SPY-1 Radar congressional add, Baseline 5.3.9 EMI fix, AEGIS Traveling Wave Tube Circuit congressional add, and AUSPAR Project Below Threshold Reprogramming (BTR).

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Project Justification			DATE: FEBRUARY 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604307N/AEGIS COMBAT SYSTEM ENG	PROJECT NUMBER AND NAME 3044/9223/9225 - Solid State SPY Radar																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">8.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">6.000</td><td style="text-align: center;">23.133</td></tr><tr><td>RDT&E Articles Quantity</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	8.000	0.000	6.000	23.133	RDT&E Articles Quantity	0	0	0	0
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	8.000	0.000	6.000	23.133															
RDT&E Articles Quantity	0	0	0	0															
<div style="border: 1px solid black; padding: 5px;">R&D / RISK REDUCTION Planned:<ul style="list-style-type: none">- Digital Array Radar (DAR) build, integration, and component test- Prototype build, integration, and initial test- Conducted Navy Program Decision Milestone to finalize technology and radar baseline</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.974</td><td style="text-align: center;">2.200</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.974	2.200	0.000	0.000	RDT&E Articles Quantity	0	0	0	0
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.974	2.200	0.000	0.000															
RDT&E Articles Quantity	0	0	0	0															
<div style="border: 1px solid black; padding: 5px;">ADVANCED TECHNOLOGY MMIC DEVELOPMENT Planned:<ul style="list-style-type: none">- Improve the producibility (i.e. yield and cost) of high power Silicon Carbide (SiC) MMIC power amplifiers.- Non recurring engineering design of high power SiC MMICs. Recurring fabrication to support future capability radar demonstrations</div>																			

R-1 SHOPPING LIST - Item No. 102

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Project Justification			DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604307N/AEGIS COMBAT SYSTEM ENG	PROJECT NUMBER AND NAME 3044/9223/9225 - Solid State SPY Radar		

B. Accomplishments/Planned Program (Cont.)

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	3.553	5.796	5.956	21.400
RDT&E Articles Quantity	0	0	0	0

SYSTEMS ENGINEERING

Planned:

- Participate in the development of threat definitions, performance requirements and radar specifications; perform radar systems performance analysis.
- Participate in Integrated Product Teams (IPTs) and Working Groups (WGs) to resolve critical issues.
- Perform supporting studies and analyses.
- Defines efforts necessary to identify and solve DMS issues 10KW traveling wave tube (TWT).
- Certify Baseline incorporating EMI fix for Baseline 5.3.8 CGs and DDGs
- Finalize Acquisition Strategy (AS), Acquisition Plan (AP), and Technical Data Package (TDP) for competition
- Conduct CG(X) Radar competition

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.105	0.025	0.520	0.900
RDT&E Articles Quantity	0	0	0	0

PROGRAM MANAGEMENT SUPPORT

Planned:

- Program planning, assessment of technical alternatives, risk identification and mitigation.
- Cost and schedule development and execution.

Total Cost:	12.632	8.021	12.476	45.433
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R-1 SHOPPING LIST - Item No. 102

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, 15 of 42)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Project Justification			DATE: FEBRUARY 2005																																																																																	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604307N/AEGIS COMBAT SYSTEM ENG	PROJECT NUMBER AND NAME 3044/9223/9225 - Solid State SPY Radar																																																																																		
<p>C. (U) PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;"></th> <th style="text-align: right; width: 15%;">FY 2004</th> <th style="text-align: right; width: 15%;">FY 2005</th> <th style="text-align: right; width: 15%;">FY 2006</th> <th style="text-align: right; width: 15%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY05 President's Budget</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">9.274</td> <td style="text-align: right;">39.914</td> </tr> <tr> <td>FY06 President's Budget</td> <td style="text-align: right;">12.632</td> <td style="text-align: right;">8.021</td> <td style="text-align: right;">12.476</td> <td style="text-align: right;">45.433</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">12.632</td> <td style="text-align: right; border-top: 1px solid black;">8.021</td> <td style="text-align: right; border-top: 1px solid black;">3.202</td> <td style="text-align: right; border-top: 1px solid black;">5.519</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Programmatic/Other Adjustments</td> <td style="text-align: right;">-0.040</td> <td style="text-align: right;">-0.179</td> <td style="text-align: right;">3.202</td> <td style="text-align: right;">5.519</td> </tr> <tr> <td> Management Improvements</td> <td style="text-align: right;">-0.011</td> <td></td> <td></td> <td></td> </tr> <tr> <td> SBIR Reductions</td> <td style="text-align: right;">-0.117</td> <td></td> <td></td> <td></td> </tr> <tr> <td> SiC Congressional Add</td> <td style="text-align: right;">1.300</td> <td style="text-align: right;">3.000</td> <td></td> <td></td> </tr> <tr> <td> AN/SPY-1 Congressional Add</td> <td style="text-align: right;">3.000</td> <td style="text-align: right;">3.400</td> <td></td> <td></td> </tr> <tr> <td> AEGIS Traveling Wave Tube congressional add</td> <td></td> <td style="text-align: right;">1.800</td> <td></td> <td></td> </tr> <tr> <td> CG(X) RDTEN</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> PBD Adjustments</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Execution Realignment</td> <td style="text-align: right;">8.500</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Subtotal</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">12.632</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">8.021</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">3.202</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">5.519</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule:</p> <p style="margin-left: 40px;">Not Applicable.</p> <p style="margin-top: 20px;">Technical:</p> <p style="margin-left: 40px;">Not Applicable.</p>						FY 2004	FY 2005	FY 2006	FY 2007	Funding:					FY05 President's Budget	0.000	0.000	9.274	39.914	FY06 President's Budget	12.632	8.021	12.476	45.433	Total Adjustments	12.632	8.021	3.202	5.519	Summary of Adjustments					Programmatic/Other Adjustments	-0.040	-0.179	3.202	5.519	Management Improvements	-0.011				SBIR Reductions	-0.117				SiC Congressional Add	1.300	3.000			AN/SPY-1 Congressional Add	3.000	3.400			AEGIS Traveling Wave Tube congressional add		1.800			CG(X) RDTEN					PBD Adjustments					Execution Realignment	8.500				Subtotal	12.632	8.021	3.202	5.519
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R-1 SHOPPING LIST - Item Nr 102

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, 16 of 42)

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Project Justification							DATE: FEBRUARY 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604307N/AEGIS COMBAT SYSTEM ENG			PROJECT NUMBER AND NAME 3044/9223/9225 - Solid State SPY Radar			

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
RD TEN 0604300N Proj 3107 CG (X) Developmen	0.000	0.000	45.000	60.000	162.200	204.000	226.000	243.000	cont	cont.
SCN 211400 - CG (X)								3,273.612		

E. ACQUISITION STRATEGY:

SOLID STATE SPY RADAR / SILICON CARBIDE MMIC PRODUCIBILITY PROGRAM: The Solid State SPY Radar Program was awarded to Lockheed Martin in June 1999 based upon a competitive selection resulting from a Broad Agency Announcement (BAA). This program is for the competition of a prototype radar system. A milestone decision for EDM will be based upon successful completion of this prototype phase.

AN/SPY-1 READINESS IMPROVEMENT PROGRAM: This is a Phase II SBIR managed by Mikros Systems Corporation.

AEGIS TRAVELING WAVE TUBE CIRCUIT PROGRAM: This program is managed by NSWC Crane.

CG(X): (U) Plans are to leverage research and development investments, integrate significantly matured fundamental advanced technologies from technology risk reduction efforts and allies, and incorporate Open Architecture approaches to develop a scalable radar design with major improvements in power, sensitivity, resistance to natural and man-made environments over current radar systems for multi-mission TAMD (BMD and Area AAW). System design will be accomplished using proven advanced technologies and commercial standards to lower schedule risk and develop a product with the lowest life-cycle cost.

F. MAJOR PERFORMERS:

SS SPY: Lockheed Martin - Moorestown, NJ
 Improved Readiness for AN/SPY-1 Radar: Mikros Systems Corporation, Princeton, NJ
 Silicon Carbide Producibility MMIC Program: CREE, Inc. Durham, NC
 CG(X): TBD

R-1 SHOPPING LIST - Item No. 102

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)													DATE: FEBRUARY 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NAME AND NUMBER			PROJECT NUMBER AND NAME									
RDT&E, N / BA - 5			0604307N/AEGIS COMBAT SYSTEM ENG			3044/9223/9225 - Solid State SPY Radar									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Primary Hardware Dev / Sys Eng															
R&D / Risk Reduction	SS/CPAF	Lockheed Martin (NJ)	22.204	0.000	N/A	0.000	N/A	0.000	N/A	0.000	N/A	Continuing	Continuing	TBD	
	MIPR	DCMA	0.000	8.000	03/05										
	TBD	TBD	0.000	0.000	N/A	0.000	N/A	6.000	TBD	23.133	TBD	Continuing	Continuing	TBD	
Advanced Technology MMIC Dev	Cost Share	CREE	1.785	0.974	05/04	2.200	04/05								
System Engineering	Various	Various	1.565	0.000	N/A	0.967	N/A	5.956	TBD	21.400	TBD	Continuing	Continuing	TBD	
	CPFF	MIKROS	0.000	2.503	03/04	2.869	04/05								
	WX	NSWC DD	1.250	0.800	01/04	0.055	04/05								
	CPFF	JHU/APL	1.514	0.100	01/04										
	WX	NRL	0.150	0.100	01/04										
	WX	PHD	0.000	0.050	03/05	0.120	04/05								
	WX	NSWC Crane	0.000	0.000	N/A	1.785	03/05					Continuing	Continuing	TBD	
Subtotal Product Development			28.468	12.527		7.996		11.956		44.533		Continuing	Continuing	TBD	
Remarks:															
Support / Management Services	Various	Various	0.050	0.105	06/04	0.025	04/05	0.520	TBD	0.900	TBD	Continuing	Continuing	TBD	
Subtotal T&E:			0.050	0.105		0.025		0.520		0.900		Continuing	Continuing	TBD	
Remarks:															
Total Cost			28.518	12.632		8.021		12.476		45.433		Continuing	Continuing	TBD	

R-1 SHOPPING LIST - Item No. 102

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, 18 of 42)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																				DATE: FEBRUARY 2005												
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME												
RDT&E, N / BA-5										0604307N / AEGIS COMBAT SYSTEM ENGINEERING										3044/9223 - Solid State SPY Radar												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																																
Prototype Phase													Fabrication Integration & Test																			
Radar System Development													PDR				CDR				IPR				IPR				Delivery			
Software Development																																
Test & Evaluation Milestones																																
Land Based Testing																																
Deliveries																																

R-1 SHOPPING LIST - Item No. 102

CDR	Critical Design Review
IPR	In-Progress Review
PDR	Preliminary Design Review
TRR	Test Readiness Review

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail							DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-5	PROGRAM ELEMENT 0604307N/AEGIS COMBAT SYSTM ENG			PROJECT NUMBER AND NAME 3044/9223/9225 - Solid State SPY Radar				
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Prototype Phase								
Radar System Development								
Preliminary Design Review (PDR)				1Q				
Critical Design Review (CDR)					1Q			
In-Process Review (IPR)						1Q	1Q	
Delivery							4Q	
Software Delivery								
Preliminary Design Review (PDR)				1Q				
Critical Design Review (CDR)					1Q			
Coding Complete							2Q	
Test & Evaluation								
Test Readiness Review (TRR)							4Q	
Land Based Test								4Q
Deliverables								
Prototype								
							4Q	

R-1 SHOPPING LIST - Item No. 102

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, 20 of 42)

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:											
																								FEBRUARY 2005											
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-5												0604307N/AEGIS COMBAT SYSTEM ENG												3044/Improved Readiness for AN/SPY-1 Radar											
Fiscal Year	2003				2004				2005				2006				2007				2008				2009				2010						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4							
Contract Award			▲																																
MFDAT Phase II Base Program																																			
System Design																																			
Hardware Design																																			
Software Design																																			
AN/SPY-1A Emulator Design																																			
System Integration																																			
System Test & Checkout																																			
Baseline Prototype																																			
Demo Test Report																																			
Final Report																																			
MFDAT Phase II Option Program																																			
Neural Network Integration																																			
System Test & Checkout																																			
Demo Test Report																																			
Final Report																																			

R-1 SHOPPING LIST - Item No. 102

- Not required for Budget Activities 1, 2, 3, and 6

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[illegible]

R-1 SHOPPING LIST - Item No. 102

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, 22 of 42)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:											
																								FEBRUARY 2005											
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E,N/BA-5												PE 0604300N - DD(X) Total Ship Systems Engineering												3044/CG(X)											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4							
DAR Backend Development																																			
International Initiatives																																			
NPDM Contract Award																																			
CG(X) Radar EDM																																			

* Not required for Budget Activities 1, 2, 3, and 6

LEGEND	
CDR	Critical Design Review
EDM	Engineering Development Model
LBT	Land Based Testing
NPDM	Navy Program Decision Meeting
PDR	Preliminary Design Review
SFR	System Functional Review

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[illegible]

R-1 SHOPPING LIST - Item No. 102

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 30 of 39)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:			
							February 2005			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER				PROJECT NAME AND NUMBER:					
RDT&E, N / BA 5	AEGIS COMBAT SYS ENG PE 0604307N				PROJECTS 9381/9382/9383 Deploy Smartlink/IDESC/SIDE					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost To Complet	Total Cost
Proj 9381 - Deployable Smartlink Communications Upgrade	1.931	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.931
Proj 9382 - Integrated Logistics (IDESC)	0.385	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.385
Proj 9383 - Smart Integrated Data Environment (SIDE)	0.959	0.989	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.948
RDT&E Articles Qty	Not Applicable									

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Proj 9381 - Deployable Smartlink Communications Upgrade
Congressional plus-up for Small Business Innovative Research (SBIR) Phase III design and development of the Malibu Research antenna system.

Proj 9382 - Integrated Logistics (IDESC)
Congressional Plus-Up for Integrated Logistics (Integrated Data Environment Service Center/IDESC). The IDE is intended to provide Program Managers with the capability to realistically manage program cycle time reductions and total ownership costs while having a direct, positive effect on operational readiness. The Integrated Logistic Support (ILS) IDE is expected to provide framework and collaborative environment to integrate the acquisition and sustainment processes, now so disjointed in the DOD to provide managers the tools to control life cycle acquisition and sustainment.

Proj 9383 - Smart Integrated Data Environment (SIDE)
The Smart Integrated Data Environment (SIDE) is a concept for a fully interactive, ship-wide integration of physical plant and supporting operations, maintenance, logistics, training, and other data. Decision-aids and automated processes are further integrated to make the data both dynamic and useful at every echelon of the organization. SIDE has potential to increase productivity and, hence, decrease Sailor workload. The funding will be used for the development of a limited capability, shore-based prototype that will prove the concept and provide an automated Engineering Operating Sequencing System (EOSS)/Combat Systems Operating Sequencing Systems (CSOSS) equipment tag-out capability for shore based validation teams. This initial capability will be expanded to incorporate an engineering casualty control exercise component and subsequently will be transitioned to shipboard use and further developed to incorporate the full range of potential capability.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME AEGIS COMBAT SYS ENG PE 0604307N	PROJECT NUMBER AND NAME PROJECTS 9381/9382/9383 Deploy Smartlink/IDESC/SIDE	
B. Accomplishments/Planned Program			
	FY 04	FY 05	FY 06
Proj 9381 - Deployable Smartlink Communications Upgrade	1.931		
Proj 9382 - Integrated Logistics (IDESC)	0.385		
Proj 9383 - Smart Integrated Data Environment (SIDE)	0.959	0.989	
RDT&E Articles Quantity			

Proj 9381 - Deployable Smartlink Communications Upgrade
 Accomplishments: Designed, developed and incorporated upgrades to the SMARTLINK Communications System. Preliminary test and validation to qualify system for acquisition was accomplished.
 Planned: Complete radar cross section testing and provide final system specification for acquisition.

Proj 9382 - Integrated Logistic (IDESC)
 Accomplishments: To date, the contractors' performance has been outstanding. In a pilot project supported by this office to validate certain technical capabilities and to provide leadership and program management, NetIDEAS and LM NE&SS completed its work on time, with budget and exceeded technical requirements.
 Planned: The ILS and IDE objectives for PEO Ships Business Systems are:
 1) Support transformation to integrated system product support.
 2) Provide Industry based ILS connectivity to the DOD acquisition process.
 3) Assist industrial partners in building and using product supply chains.
 4) Integrate the private sector with the DOD program stakeholders through a collaborative engineering and work environment.
 5) Initiate and manage life cycle behavior among all stakeholders of a product using operational readiness and total ownership costs as measures of success.

Proj 9383 - Smart Integrated Data Environment (SIDE)
 Accomplishments:
 - Requirements defined.
 - Architecture developed.
 - Engineering plant model developed.
 Planned:
 - Develop and deliver automated machinery tag-out system from model.
 - Expand system to incorporate engineering casualty control training capability.
 - Expand system capability to include automated processes and decision-aids.
 - Transition to shipboard use.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME AEGIS COMBAT SYS ENG PE 0604307N	PROJECT NUMBER AND NAME PROJECTS 9381/9382/9383 Deploy Smartlink/IDESC/SIDE		

C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
Funding:				
Previous President's Budget: (FY 2005 PRESBUD)	3.362			
Current BES/President's Budget: (FY 2006/2007 PRESBUD)	3.275	0.989		
Total Adjustments	-0.087	0.989		
Summary of Adjustments				
Non-Pay Inflation Savings	0.003			
SBIR	0.084			
Congressional Increases		0.989		
Subtotal	0.087	0.989		
Schedule:				
Not Applicable.				
Technical:				
Not Applicable.				
Funding:				
Not Applicable.				

R-1 SHOPPING LIST - Item No. 102

UNCLASSIFIED

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5			PROGRAM ELEMENT NUMBER AND NAME AEGIS COMBAT SYS ENG PE 0604307N			PROJECT NUMBER AND NAME PROJECTS 9381/9382/9383 Deploy Smartlink/IDESC/SIDE			

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
Not Applicable										

E. ACQUISITION STRATEGY: *

Proj 9381 - Deployable Smartlink Communications Upgrade
 Utilizing the SBIR Phase III contract, develop the Deployable Smartlink Communications System incorporating system upgrades through test and evaluation that mitigate technical and operational risks to achieve a system that is acquirable by the Navy

Proj 9382 - Integrated Logistics (IDESC)
 Utilizing the Lockheed Martin Lifetime Support Contract to develop the IDESC. Today, data collection and information management through a product's life cycle is done in manual and serial process. Renewed emphasis on maintenance and modernization to existing fleet resources has exacerbated the need for improved methods of designing, monitoring and implementing modernization programs. Modernization programs rely heavily on engineering and product data that is contained in many different locations, within disparate and heterogeneous systems and has ownership by many different activities. There is a significant and increasing cost associated with the proper planning, designing, implementing, monitoring and tracking all of the data, processes and personnel required to meet the demands of our modernization programs. The ability to meet modernization goals has a direct impact on the fleet sailor and the Navy's ability to meet the mission demands.

It is now feasible to use commercial technology to integrate engineering databases so that they function as a virtually integrated management data environment, allowing near real time information sharing across the enterprise without the need to replace legacy systems. This solution also provides the ability for true collaboration using the web. This greatly enhances the accuracy and timeliness of the information provided to decision-makers and improves their ability to assess and correct problems early. This would permit total visibility for program managers and all parties who contribute to maintenance and modernization, enabling them to collaborate early in the process and decrease total ownership cost (TOC).

Proj 9383 - Smart Integrated Data Environment
 Utilize the Congressional Plus-up in FY04 to develop a prototype system for proof of concept. Use Congressional Plus-up in FY05 to develop and integrate shipboard engineering training capability. Transition to shipboard system in FY05 and expand capabilities in outyears. This program is for development of prototype only. A milestone decision will be based on successful completion of the prototype.

R-1 SHOPPING LIST - Item No. 102

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME AEGIS COMBAT SYS ENG PE 0604307N	PROJECT NUMBER AND NAME PROJECTS 9381/9382/9383 Deploy Smartlink/IDESC/SIDE
<p>F. MAJOR PERFORMERS:</p> <p><u>Proj 9381 - Deployable Smartlink Communications Upgrade</u> NSWC Dahlgren - Project Management Malibu Research - Prime Contractor NSWC Crane - Acquisition Planning and IPT lead</p> <p><u>Proj 9382 - Integrated Logistics (IDESC)</u> NetIDEAS, Inc. (NetIDEAS)</p> <p><u>Proj 9383 - Smart Integrated Data Environment</u> Delex Systems, Inc., Vienna, VA</p>		

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT					PROJECT NUMBER AND NAME						
RDT&E, N / BA 5			AEGIS COMBAT SYS ENG PE 0604307N					PROJECTS 9381/9382/9383 Deploy						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Systems Engineering	CPFF	Malibu Research, Inc./		1.618	03/04									
		NSWC Dahlgren												
Systems Engineering	FFP	NetIDEAS Inc. Mt Laurel, NJ		0.235	03/04									
Systems Engineering	CPAF	LMCO, Moorestown, NJ		0.020	03/04									
SIDE Prototype Development	T&M	Delex Systems, Inc.		0.959	06/04	0.989	03/05							
Subtotal Product Development				2.832		0.989								
Remarks:														
Support		NSWC Dahlgren		0.082	03/04									
Support		NetIDEAS Inc. Mt Laurel, NJ		0.100	03/04									
Subtotal Support				0.182		0.000								
Remarks:														

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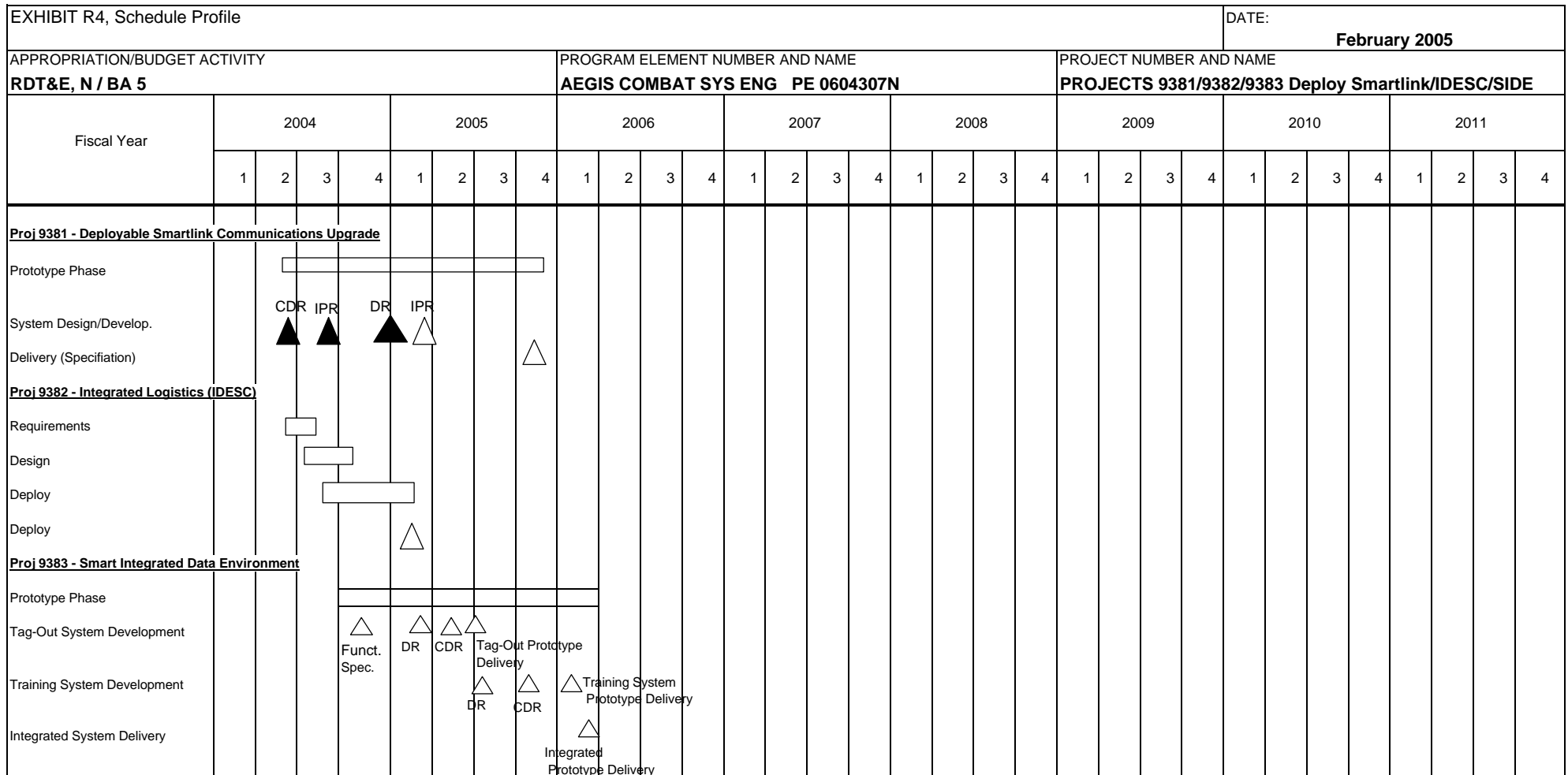
CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT					PROJECT NUMBER AND NAME						
RDT&E, N / BA 5			AEGIS COMBAT SYS ENG PE 0604307N					PROJECTS 9381/9382/9383 Deploy						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Subtotal T&E				0.000		0.000								
Remarks:														
IPT Lead and Program Mgmt		NSWC Crane		0.231	02/04									
Program Management Support	CPAF	LMCO, Moorestown, NJ		0.010	03/04									
Program Management Support	FFP	NetIDEAS Inc., Mt.Laurel, NJ		0.020	03/04									
Subtotal Management				0.261		0.000								
Remarks:														
Total Cost			0.000	3.275		0.989								
Remarks:														

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT AEGIS COMBAT SYS ENG PE 0604307N				PROJECT NUMBER AND NAME PROJECTS 9381/9382/9383			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
<u>Proj 9381 - Deployable Smartlink Communications Upgrade</u>								
Prototype Phase	2-4Q	1Q						
System Design	2-4Q	1Q						
Delivery - Prototype System		4Q						
<u>Proj 9382 - Integrated Logistics (IDESC)</u>								
Requirements	2-3Q							
Design	3-4Q							
Deploy	3-4Q	1Q						
Delivery		1Q						
<u>Proj 9383 - Smart Integrated Design Environment (SIDE)</u>								
Prototype Phase	4Q	1-4Q	1Q					
Tag-Out System Development	4Q	1-2Q						
Model Development	4Q	1-2Q						
Functional Specification		1Q						
Design Review		1Q						
Critical Design Review		2Q						
Tag-Out Prototype Delivery		2Q						
Casualty Control Training Prototype Delivery								
Design Review		2Q						
Critical Design Review		4Q						
Engineering Casualty Control Training System Prototype Deliv.			1Q					
Delivery - Integrated SIDE Prototype			1Q					

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 33 of 42)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5		PROGRAM ELEMENT NAME AND NUMBER AEGIS COMBAT SYS ENG PE 0604307N				PROJECT NAME AND NUMBER: 9556/Integrated Display and Enhanced Architecture (IDEA)				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost To Complete	Total Cost
9556/Integrated Display & Enhanced Architecture (IDEA)	0.000	4.260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.260
RDT&E Articles Qty	Not Applicable									
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: <u>Integrated Display & Enhanced Architecture (IDEA)</u> IDEA permits an operator to immediately reconfigure his/her workstation and assume the responsibilities of any other operator, thereby facilitating real Navy manning reductions while still meeting operational requirements. In addition to reconfigurable display surfaces, IDEA enables HSI improvements for improved decision-making and increased productivity. Allows display components to be developed once and reused to realize cost savings across Navy programs.										

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME AEGIS COMBAT SYS ENG PE 0604307N	PROJECT NUMBER AND NAME 9556/Integrated Display and Enhanced Architecture		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Integrated Display & Enhanced Architecture (IDEA)		4.26		
RDT&E Articles Quantity				

Integrated Display & Enhanced Architecture (IDEA)

Planned:

- Requirements defined.
- IDEA Architecture developed.
- System Hardware Architecture defined

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME AEGIS COMBAT SYS ENG PE 0604307N	PROJECT NUMBER AND NAME 9556/Integrated Display and Enhanced Architecture		
C. PROGRAM CHANGE SUMMARY:				
Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY05 President's Budget		0.000		
FY06 President's Budget		4.260		
Total Adjustments		<hr/> 4.260		
Summary of Adjustments				
Congressional Add		4.300		
Undistributed Congressional Adjustment		-0.039		
Other Adjustments		<hr/> -0.001		
		4.26		
Subtotal				
Schedule:				
Not Applicable.				
Technical:				
Not Applicable.				
Funding:				
Not Applicable.				

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Exhibit R-2a, RDTE Project Justification
(Exhibit R-2a, page 36 of 42)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005																								
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5			PROGRAM ELEMENT NUMBER AND NAME AEGIS COMBAT SYS ENG PE 0604307N			PROJECT NUMBER AND NAME 9556/Integrated Display and Enhanced Architecture																									
<p>D. OTHER PROGRAM FUNDING SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Line Item No. & Name</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2004</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2005</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2006</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2007</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2008</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2009</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2010</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2011</th> <th style="text-align: center; border-bottom: 1px solid black;">To Complete</th> <th style="text-align: center; border-bottom: 1px solid black;">Total Cost</th> </tr> </thead> <tbody> <tr> <td>Not Applicable</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table> <p>E. ACQUISITION STRATEGY: <u>Integrated Display & Enhanced Architecture (IDEA)</u> Utilizing the Lockheed Martin contract, develop IDEA. DRS is a subcontractor under this contract, which is envisioned to perform a majority of the work.</p>										Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost	Not Applicable										
Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost																					
Not Applicable																															

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME AEGIS COMBAT SYS ENG PE 0604307N	PROJECT NUMBER AND NAME 9556/Integrated Display and Enhanced Architecture
<p>F. MAJOR PERFORMERS:</p> <p><u>Integrated Display & Enhanced Architecture (IDEA)</u> Lockheed Martin Maritime Sensors and Systems DRS, Inc.</p>		

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT					PROJECT NUMBER AND NAME						
RDT&E, N / BA 5			AEGIS COMBAT SYS ENG PE 0604307N					9556/Integrated Display and Enhanced Architecture						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Systems Engineering	SS/CPAF	Lockheed, Moorestown, NJ				3.834	03/05							
Award Fee	SS?CPAF	Lockheed, Moorestown, NJ				0.426	09/05							
Subtotal Product Development						4.260								
Remarks:														
Remarks:														

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT					PROJECT NUMBER AND NAME						
RDT&E, N / BA 5			AEGIS COMBAT SYS ENG PE 0604307N					9556/Integrated Display and Enhanced Architecture						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Subtotal T&E														
Remarks:														
Subtotal Management														
Remarks:														
Total Cost				0.000		4.260		0.000		0.000				
Remarks:														

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:				February 2005							
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA 5												AEGIS COMBAT SYS ENG PE 0604307N												9556/Integrated Display and Enhanced Architecture											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
Integrated Display & Enhanced Architecture (IDEA)																																			
Spiral Development																																			
<div><div></div><div></div><div></div><div></div><div></div></div> <div><div>▲</div><div>△</div><div>△</div><div>▲</div><div>△</div></div> <div><div>Func. Spec.</div><div>CDR</div><div>EA</div><div>IPR</div><div>Demo</div></div>																																			

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 42 of 42)

CLASSIFICATION:

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EXHIBIT R-2, RDT&E Budget Item Justification							DATE: FEBRUARY 2005			
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE					
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-5					LPD 17 CLASS SYSTEM INTEGRATION AND DEVELOPMENT - 0604311N					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Total Cost
Total PE Cost	8.621	8.893	11.443	5.955	4.290	0.987	1.033	0.979	0.000	42.201
LPD 17 Class Systems Integration/22283	8.621	8.893	11.443	5.955	4.290	0.987	1.033	0.979	0.000	42.201
Quantity of RDT&E Articles										
A. Mission Description and Budget Item Justification: The LPD 17 Class ships are functional replacements for 41 ships of four classes of amphibious ships. These new ships embark, transport, and land elements of Marine landing forces in an amphibious assault by helicopters, landing craft, and amphibious vehicles. Tactics, techniques, and tools for naval expeditionary warfare continue to evolve. The LPD 17 Class configuration must continue to adapt to this evolutionary process, because these ships are expected to be in service until almost 2050. The LPD 17 design includes systems configurations that reduce operating and support costs and facilitate operational performance improvements. System engineering and integration efforts that began in FY 1997 will develop further reductions in life cycle costs and will integrate performance upgrades in a rapid, affordable manner. Possible improvements include advanced sensors, advanced computers, advanced command and control software, advanced information systems technologies, and ship based logistics concepts. Cost reduction and improved performance will be accomplished through sustained modeling and simulation efforts, continued personnel reductions efforts, system performance tradeoff evaluation, and naval expeditionary warfare systems engineering. Feedback from the operational forces for integrating system configurations will be accomplished through the Naval Expeditionary Warfare Centers in Quantico, Dahlgren, and Little Creek, Virginia. These efforts will result in well-defined specifications and drawings in system integration design packages that provide technical baselines for follow-on ship procurements. In addition, these efforts include the Live Fire Test & Evaluation (LFT&E) and Operational Evaluation (OPEVAL) tests required for the lead ship. This program is funded under Engineering and Manufacturing Development because it encompasses engineering and manufacturing development of new end items prior to production approval decision.										

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Project Justification			DATE: FEBRUARY 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E,N/BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604311N - LPD 17 Class System Integration	PROJECT NUMBER AND NAME 2283: LPD 17 Class Systems Integration																	
(U) B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">8.621</td><td style="text-align: center;">8.893</td><td style="text-align: center;">11.443</td><td style="text-align: center;">5.955</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	8.621	8.893	11.443	5.955	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	8.621	8.893	11.443	5.955															
RDT&E Articles Quantity																			
<div>Continue Naval Expeditionary Warfare Systems Engineering efforts. Continue Live Fire Test and Operational Evaluation and vulnerability assessment efforts. Development of system upgrades and improvements. Plan for at-sea tests. Procure expendable test rounds for required at-sea tests.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000															
RDT&E Articles Quantity																			

CLASSIFICATION:

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EXHIBIT R-2, RDT&E Budget Item Justification						DATE: FEBRUARY 2005		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-5					R-1 ITEM NOMENCLATURE LPD 17 CLASS SYSTEM INTEGRATION AND DEVELOPMENT - 0604311N			
(U) C. PROGRAM CHANGE SUMMARY								
(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007				
FY 2005 President's Budget	8.888	8.988	9.050	5.888				
FY2006 President's Budget	8.621	8.893	11.443	5.955				
Total Adjustments	-0.267	-0.095	2.393	0.067				
Summary of Adjustments								
SBIR	-0.246							
Inflation	-0.001		0.112	0.076				
Congressional Reductions		-0.081						
LPD17 OPEVAL Requirement			2.300					
Miscellaneous	-0.02	-0.014	-0.019	-0.009				
	-0.267	-0.095	2.393	0.067				
(U) D. OTHER PROGRAM FUNDING SUMMARY								
<u>Line Items No. & Name</u>	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY2010	FY2011
BLI303600(SCN)	1575.8	1227.4	1344.7	1584.2	106.3			
(U) E. ACQUISITION STRATEGY								
(U) F. MAJOR PERFORMERS								

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)							DATE: FEBRUARY 2005						
APPROPRIATION/BUDGET ACTIVITY			PROJECT NAME AND NUMBER										
RDT & E, NAVY/BA-5			LPD 17 CLASS SYSTEM INTEGRATION AND DEVELOPMENT - 0604311N										
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Systems Engineering and Integration	Various	Various	5.560		0.680		0.683		4.955		7.289	19.167	
Subtotal Product Development			5.560		0.680		0.683		4.955		7.289	19.167	
Remarks:													
Development Support Equipment													
Software Development													
Training Development													
Integrated Logistics Support													
Configuration Management													
Technical Data													
GFE													
Subtotal Support			0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:													

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)						DATE: FEBRUARY 2005							
APPROPRIATION/BUDGET ACTIVITY			PROJECT NAME AND NUMBER										
RDT & E, NAVY/BA-5			LPD 17 CLASS SYSTEM INTEGRATION AND DEVELOPMENT - 0604311N										
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
DT&E/OT&E	Various	Various	3.061		8.213		10.760		1.000			23.034	
Subtotal T&E			3.061		8.213		10.760		1.000		0.000	23.034	
Remarks:													
Contractor Engineering Support													
Government Engineering Support													
Program Management Support													
Travel													
Labor (Research Personnel)													
Overhead													
Subtotal Management			0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:													
Total Cost			8.621		8.893		11.443		5.955				
Remarks:													

CLASSIFICATION:

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CLASSIFICATION:

[illegible]

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EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-05					R-1 ITEM NOMENCLATURE 0604312N Tri-Service Standoff Attack Missile (TSSAM)			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	19.433	27.041	0.000	0.000	0.000	0.000	0.000	0.000
2242 Joint Air to Surface Standoff Missile (JASSM)	19.433	27.041	0.000	0.000	0.000	0.000	0.000	0.000

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Joint Air to Surface Standoff Missile (JASSM) program is a follow-on weapon system to the canceled Tri-Service Standoff Attack Missile (TSSAM). It is a joint Air Force/Navy program. JASSM is a long range, conventional air-to-surface, autonomous precision guided, standoff cruise missile compatible with fighter and bomber aircraft and able to attack a variety of fixed and relocatable targets. JASSM will carry a 1,000 pound class penetrator warhead. Initial integration efforts will be on the B-52 and F-16. The F/A 18 E/F, C/D, S-3, P 3 and JSF are currently designated as Navy objective platforms for JASSM. Carrier Operability is one of the Key Performance Parameters (KPP) for JASSM. The budget covers only the cost of Navy unique testing for the Carrier Operability KPP and integration aboard the Navy F/A-18E/F including mission planning (FY03 and outyears). FY04 specific tasks are centered on completing JASSM ground and wind tunnel tests.

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05	PROGRAM ELEMENT NUMBER AND NAME 0604312N Tri-Service Standoff Attack Missile (TSSAM)				PROJECT NUMBER AND NAME 2242 Joint Air-to-Surface Standoff Missile (JASSM)			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	19.433	27.041	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty	2							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Joint Air to Surface Standoff Missile (JASSM) program is a follow-on weapon system to the canceled Tri-Service Standoff Attack Missile (TSSAM). It is a joint Air Force/Navy program. JASSM is a long range, conventional air-to-surface, autonomous precision guided, standoff cruise missile compatible with fighter and bomber aircraft and able to attack a variety of fixed and relocatable targets. JASSM will carry a 1,000 pound class penetrator warhead. Initial integration efforts will be on the B-52 and F-16. The F/A 18 E/F, C/D, S-3, P-3 and JSF are currently designated as Navy objective platforms for JASSM. Carrier Operability is one of the Key Performance Parameters (KPP) for JASSM. The budget covers only the cost of Navy unique testing for the Carrier Operability KPP and integration aboard the Navy F/A-18E/F including mission planning (FY03 and outyears). FY04 specific tasks are centered on completing JASSM ground and wind tunnel tests. Funding was inadequate and improperly aligned to support the FY09 IOC. Due to higher Navy priorities and redundancy in mission, the JASSM F-18 E/F Aircraft Integration Program was not funded in PB06 and was terminated in FY05. FY05 funds are for mission planning, other developmental tasks and termination costs for Navy-unique tasks.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05	PROGRAM ELEMENT NUMBER AND NAME 0604312N Tri-Service Standoff Attack Missile (TSSAM)	PROJECT NUMBER AND NAME 2242 Joint Air-to-Surface Standoff Missile (JASSM)																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>F/A-18 E/F JASSM Integration</td> <td style="text-align: center;">19.433</td> <td style="text-align: center;">19.300</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td style="text-align: center;">2</td> <td></td> <td></td> <td></td> </tr> </table>						FY 04	FY 05	FY 06	FY 07	F/A-18 E/F JASSM Integration	19.433	19.300	0.000	0.000	RDT&E Articles Quantity	2			
	FY 04	FY 05	FY 06	FY 07															
F/A-18 E/F JASSM Integration	19.433	19.300	0.000	0.000															
RDT&E Articles Quantity	2																		
<div style="border: 1px solid black; padding: 5px;"> <p>F/A-18E/F integration to include Wind Tunnel tests, Carrier Suitability, Noise and Vibrations, Flying Qualities, Separation, E3, Performance Flight tests, Structural tests and purchase of test assets. Perform systems engineering, mission support, and Integrated Logistics Support (ILS) in order to achieve a successful Operational Test and Initial Operational Capability. Integration on the F/A-18E/F includes aircraft Operational Flight Program (OFP) development, software development, test, verification and validation to implement the JASSM missile in software build H5. Program is terminated in FY2005.</p> </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>JASSM PTM to PC Migration</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">7.741</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 04	FY 05	FY 06	FY 07	JASSM PTM to PC Migration	0.000	7.741	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
JASSM PTM to PC Migration	0.000	7.741	0.000	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> <p>JASSM Mission Planning efforts. Navy is paying for the JASSM Precision Terminal Module to Personal Computer efforts. The USAF is paying for the Joint Mission Planning System Unique Product Code development and integration.</p> </div>																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost																			
RDT&E Articles Quantity																			

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05	PROGRAM ELEMENT NUMBER AND NAME 0604312N Tri-Service Standoff Attack Missile (TSSAM)	PROJECT NUMBER AND NAME 2242 Joint Air-to-Surface Standoff Missile (JASSM)		

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 04	FY 05	FY 06	FY 07
Previous President's Budget:	20.901	27.047	21.145	14.344
Current President's Budget	19.433	27.041	0.000	0.000
Total Adjustments	-1.468	-0.006	-21.145	-14.344
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.245		
Congressional rescissions				
SBIR/STTR Transfer	-0.449			
OSD		0.239		
Navy (FMB/Sponsor/NAVAIR)			-21.145	-14.344
Economic Assumptions	-0.019			
Reprogrammings	-1.000			
Congressional increases				
Subtotal	-1.468	-0.006	-21.145	-14.344

Schedule:

Due to higher Navy priorities, JASSM F/A-18 E/F integration is terminated in FY2005.

Technical:

Due to higher Navy priorities, JASSM F/A-18 E/F integration is terminated in FY2005

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05			PROGRAM ELEMENT NUMBER AND NAME 0604312N Tri-Service Standoff Attack Missile (TSSAM)			PROJECT NUMBER AND NAME 2242 Joint Air-to-Surface Standoff Missile (JASSM)			

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
USAF PAAF	99.436	145.324	148.271	196.798	303.383	309.628	242.062	195.053	1695.780	3427.568
USAF, RDT&E U.S. Air Force P.E. 0207325F Joint Air to Surface Standoff Missile (JASSM) Extended Range (ER)	25.498	45.777	70.709	33.596	12.000	0.000	0.000	0.000	0.000	187.580

E. ACQUISITION STRATEGY:

All major contracts within the program were awarded through full and open competition. The EMD phase option for JASSM is Cost Plus Award Fee (CPAF). This contract type provides the Government the flexibility to periodically evaluate contractor performance while motivating the contractor to execute a successful program with emphasis on EMD schedule, system performance, and management effectiveness. JASSM is an OSD flagship program under Cost as An Independent Variable (CAIV). This allows the contractor to have maximum trade space to develop an affordable missile that meets the four Key Performance Parameters. Under CAIV, the program maintains a threshold Average Unit Procurement Price (AUPP) of \$700,000 (BY95\$) and an objective AUPP of \$400,000 (BY95\$). The Government is buying the JASSM system based on a contractor developed, government-approved System Performance Specification (SPS) which became contractually binding at downselect. The contractor assumes Total System Performance Reliability (TSPR) as defined in the SPS and warrants system performance for 15 years. Accordingly, the contractor is responsible not only for the design of the missile system, but also for planning and executing the Development Test and Evaluation (DT&E) program to verify the missile system performance. In its role as facilitator and advisor to the contractor, the Government formally arranges and funds the use of Government flight test support for DT&E. Although funded by the Government, flight test support funds are part of the negotiated commitment between the contractor and the Government ensuring the contractor is able to execute the DT&E program according to the scope of the EMD contract. The Air Force has been funded in FY04 to begin development for an extended range version of JASSM.

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE&E, N / BA-05			0604312N Tri-Service Standoff Attack Missile (TSSAM)			A2242 Joint Air-to-Surface Standoff Missile (JASSM)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	CPAF	Lockheed Martin	2.606								2.606	2.606
Aircraft Integration	Misc	various	19.541								19.541	
Aircraft Integration	CPAF	Boeing	1.167	10.000	01/05						11.167	11.167
AoA Support	Misc	Various	9.343								9.343	
Award Fees	CPAF	Lockheed Martin	0.402								0.402	0.402
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			33.059	10.000		0.000		0.000		0.000	43.059	
Remarks: FY05 funds are for mission planning, other developmental tasks and termination costs for Navy-unique tasks.												
Weapon Systems Engineering	Misc	Various	0.632								0.632	
Software Development	Misc	Various	3.379	2.500	01/05						5.879	
Mission Planning Development	CPAF	Lockheed Martin	6.058	7.741	01/05						13.799	13.799
											0.000	
Studies and Analysis	Misc	Various	2.000								2.000	
											0.000	
											0.000	
											0.000	
Subtotal Support			12.069	10.241		0.000		0.000		0.000	22.310	
Remarks: Prior Year Studies and Analysis includes \$2.0M ASN(RDA)-funded Anti Surface Warfare (ASuW) Study. FY05 funds are for mission planning, other developmental tasks and termination costs for Navy-unique tasks.												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE, N / BA-05			0604312N Tri-Service Standoff Attack Missile (TSSAM)			A2242 Joint Air-to-Surface Standoff Missile (JASSM)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWC AD & WD									0.000	
Test Assets	CPIF	Lockheed Martin	1.200								1.200	1.200
Operational Test	WX	COMOPTEVFOR	0.050								0.050	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			1.250	0.000		0.000		0.000		0.000	1.250	
Remarks: FY05 funds are for mission planning, other developmental tasks and termination costs for Navy-unique tasks.												
Contractor Engineering Support	RX	Various	1.019	0.400	01/05						1.419	
Government Engineering Support	Misc	Various	5.843	6.000	01/05						11.843	
Program Management Support	Misc	Various	1.491	0.300	01/05						1.791	
Travel	WX/MIPR	Various	0.125	0.100	01/05						0.225	
											0.000	
SBIR Assessment											0.000	
Subtotal Management			8.478	6.800		0.000		0.000		0.000	15.278	
Remarks: FY05 funds are for mission planning, other developmental tasks and termination costs for Navy-unique tasks.												
Total Cost			54.856	27.041		0.000		0.000		0.000	81.897	

UNCLASSIFIED

CLASSIFICATION:

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Small Diameter Bomb (SDB) is a precision guided munition development program to provide an affordable solution to attack designated targets. SDB's ultimate objective to increase kills per sortie on current and future aircraft platforms addresses the following warfighter requirements: multiple kills per pass; multiple ordnance carriage; adverse weather, precision munitions capability; capability against hardened targets; reduced munitions footprint; increased weapons effectiveness against area targets; real-time target location and/or kill capability versus small/mobile targets; reduced susceptibility to Camouflage, Concealment and Deception (CCD); minimize potential for collateral damage; and reduced susceptibility of munitions to countermeasures. SDB is a Pre-MDAP (Major Defense Acquisition Program), ACAT1D program with the Air Force as the lead service. Navy funding encompasses pre-integration risk reduction testing during Increment II.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05		PROGRAM ELEMENT NUMBER AND NAME 0604329N Small Diameter Bomb (SDB)			PROJECT NUMBER AND NAME 3072 Small Diameter Bomb			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		9.843	9.965	9.958				
RDT&E Articles Qty		7						
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>Small Diameter Bomb (SDB) is a precision guided munition development program to provide an affordable solution to attack designated targets. SDB's ultimate objective to increase kills per sortie on current and future aircraft platforms addresses the following warfighter requirements: multiple kills per pass; multiple ordnance carriage; adverse weather, precision munitions capability; capability against hardened targets; reduced munitions footprint; increased weapons effectiveness against area targets; real-time target location and/or kill capability versus small/mobile targets; reduced susceptibility to Camouflage, Concealment and Deception (CCD); minimize potential for collateral damage; and reduced susceptibility of munitions to countermeasures. SDB is a Pre-MDAP (Major Defense Acquisition Program), ACAT1D program with the Air Force as the lead service. Navy funding encompasses pre-integration risk reduction testing during Increment II.</p> <p>Test articles include one (1) SDB Rack and (6) SDBs for pre-integration risk reduction efforts.</p>								

R-1 SHOPPING LIST - Item No.

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 2 of 9)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																														
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05	PROGRAM ELEMENT NUMBER AND NAME 0604329N Small Diameter Bomb (SDB)	PROJECT NUMBER AND NAME 3072 Small Diameter Bomb																																															
B. Accomplishments/Planned Program																																																	
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R-1 SHOPPING LIST - Item No.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05	PROGRAM ELEMENT NUMBER AND NAME 0604329N Small Diameter Bomb (SDB)	PROJECT NUMBER AND NAME 3072 Small Diameter Bomb		

C. PROGRAM CHANGE SUMMARY:

	FY 04	FY 05	FY 06	FY 07
Funding:				
Previous President's Budget:	0.000	9.961	9.972	9.978
Current BES/President's Budget	0.000	9.843	9.965	9.958
Total Adjustments	0.000	-0.118	-0.007	-0.020
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.106		
Congressional rescissions				
SBIR/STTR Transfer				
OSD		-0.012	-0.202	-0.188
Navy (FMB/Sponsor/NAVAIR)				
Economic Assumptions			0.195	0.168
Reprogrammings				
Congressional increases				
Subtotal	0.000	-0.118	-0.007	-0.020

Schedule:

The previous President's Budget reflected the Air Force schedule. Changes from PB05 reflect a refinement of Navy requirements and a milestone schedule that supports the Navy program.

Technical:

Not Applicable.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05		PROGRAM ELEMENT NUMBER AND NAME 0604329N Small Diameter Bomb (SDB)			PROJECT NUMBER AND NAME 3072 Small Diameter Bomb					
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
RDT&E (PB06)										
US Air Force (USAF) PE 0604329F (SDB)	118.828	75.815	85.988	85.209	131.299	141.327	90.759	11.458	0.000	867.441
Missile Procurement (PB06)										
US Air Force (USAF) PE 0207327F (SDB)		29.144	59.052	114.304	105.003	124.319	194.513	195.696	734.162	1556.193
Quantity		158	512	1200	1340	1508	2296	2650	15366	25030
E. ACQUISITION STRATEGY:										
Monitor design definition of SDB and carriage system for applications to future platforms (e.g., JSF). No Navy RDT&E requirements for Increment I on existing platforms. Perform risk reduction pre-integration testing during Increment II to include Seeker and Other Trade Studies, JSF Fit checks, Shipboard Suitability, Electromagnetic Environmental Effects, System Safety, Climatic/Dynamic Environments, Structures/Loads/Materials, Separations Wind Tunnel, and Catapult/Arrested Landings testing.										

R-1 SHOPPING LIST - Item No. 105

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-05			PROGRAM ELEMENT 0604329N Small Diameter Bomb (SDB)			PROJECT NUMBER AND NAME 3072 Small Diameter Bomb						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
											0.000	
											0.000	
Aircraft Integration	CPAF	Boeing/LMIS				1.305	10/05	2.175	10/06		3.480	3.480
											0.000	
Ship Suitability	CPAF	Boeing, St. Charles	4.080	0.657	10/04	1.298	10/05	1.720	10/06		7.755	7.755
											0.000	
											0.000	
											0.000	
Award Fees				0.116	TBD	0.390	TBD	0.585	TBD		1.091	
											0.000	
Subtotal Product Development			4.080	0.773		2.993		4.480		0.000	12.326	
Remarks:												
Studies & Analyses	CPAF	Boeing St. Charles, MO	0.103	4.002	10/04	2.194	10/05	0.394	10/06		6.693	6.693
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Award Fees				0.598	TBD	0.328	TBD	0.059	TBD		0.985	
											0.000	
Subtotal Support			0.103	4.600		2.522		0.453		0.000	7.678	
Remarks: Studies and Analyses include Weapon Data Link ACTD, Seeker Trade Studies, and Data Link Trade Studies.												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)									DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE&E, N / BA-05			0604329N Small Diameter Bomb (SDB)			3072 Small Diameter Bomb						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Test Assets	CPAF	Boeing, St Charles, MO		0.770	10/04						0.770	0.770
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			0.000	0.770		0.000		0.000		0.000	0.770	
Remarks:												
Contractor Engineering Support	RX	Various		0.600	11/04	0.650	11/05	0.700	11/06		1.950	
Government Engineering Support	WX	Various	0.121	2.800	11/04	3.500	11/05	4.000	11/06		10.421	
Program Management Support	RX	Various		0.200	11/04	0.200	11/05	0.225	11/06		0.625	
Travel	Misc	Various	0.070	0.100	10/04	0.100	10/05	0.100	10/06		0.370	
											0.000	
											0.000	
Subtotal Management			0.191	3.700		4.450		5.025		0.000	13.366	
Remarks:												
Total Cost			4.374	9.843		9.965		9.958		0.000	34.140	
Remarks:												

R-1 SHOPPING LIST - Item No. 105

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 7 of 9)

R-1 SHOPPING LIST - Item No. 102

[illegible]

* Not required for Budget Activities 1, 2, 3, and 6

Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 8 of 9)

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CLASSIFICATION:

[illegible]

R-1 SHOPPING LIST - Item No. 102

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 9 of 9)

UNCLASSIFIED

CLASSIFICATION: Unclassified

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5				R-1 ITEM NOMENCLATURE 0604366N/STANDARD MISSILE IMPROVEMENTS				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY2011
Total PE Cost	73.654	110.775	145.634	188.623	223.877	240.847	163.322	71.380
0439/Standard Missile Improvements	41.060	52.780	24.926	8.047	15.762	7.903	0.376	0.423
3092/Standard Missile 6 Program	32.594	53.574	120.708	180.576	208.115	232.944	162.946	70.957
9559/MK-41 Open Architecture Upgrades	0.000	2.937	0.000	0.000	0.000	0.000	0.000	0.000
9560/Real Time Image Processing - Silicon Brain	0.000	1.484	0.000	0.000	0.000	0.000	0.000	0.000
Defense Emergency Response Funds (DERF) Funds: No DERF funds are associated with this program/project.								
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: "...The following capabilities are required." "...Effective weapon systems that will deliver timely lethal firepower to the threat systems and supporting structures in hostile territory, provide in-flight destruction capabilities over the total flight path, and provide continuous protection to forward deployed maneuver forces as well as theater rear assets." -Mission Need Statement for Joint Theater Air and Missile Defense, May 1999 "Projecting and sustaining U.S. forces in distant anti-access or area-denial environments and defeating anti-access and area-denial threats;" "Defenses against known and emerging threats must be developed." "The United States must retain the capability to send well-armed and logistically supported forces to critical points around the globe, even in the face of enemy opposition"								

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EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /BA-5	R-1 ITEM NOMENCLATURE 0604366N/STANDARD MISSILE IMPROVEMENTS	
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>“The QDR emphasizes the need for new investments that would enable U.S. forces to defeat anti-access and area-denial threats and to operate effectively in critical areas.”</p> <p>- Quadrennial Defense Review Report, September 30, 2001</p> <p>Standard Missile-2 (SM-2) Block IIIB is the Navy's premier Anti-Air Warfare (AAW) missile, providing both area air defense for the fleet and self defense for individual Aegis CGs and DDGs, as required by the Joint TAMD MNS, DPG, QDR, and Ship Class AAW Self Defense Capstone Requirements Document. Minor agility, fuzing, and computer modifications to SM-2 Block IIIB are under development to restore performance in the near term against a specific existing proliferated ASCM threat. Continuous analysis of missile capabilities vs. ever-evolving and proliferating aircraft and anti-ship cruise missiles and long-range planning are required to keep pace with the threat. A separate, classified, advanced technology effort began to transition in FY03, and in FY04 a new program started to develop a family of advanced surface missile systems. These new missile systems will leverage the Navy investment in the Aegis Weapon System, CEC, and airborne early warning systems, which will be upgraded in concert with missile development to support a fully integrated extended range detect-to-engage capability. Funding for those upgrades are also included in this line. Together, this family of systems will provide the air superiority and the umbrella of protection against the full spectrum of projected future cruise missile (anti-ship and land attack) and manned aircraft threats discussed in the Joint TAMD MNS, DPG, QDR, and TAMD Capstone Requirements Document.</p>		

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604366N/STANDARD MISSILE IMPROVEMENTS				PROJECT NUMBER AND NAME 0439 Standard Missile Improvements			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	41.060	52.780	24.926	8.047	15.762	7.903	0.376	0.423
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Minor modifications to SM-2 Block IIIB will restore performance in the near term against a specific existing proliferated ASCM threat. These include modifications to the MK45 Target Detection Device (TDD) to improve the lethal radius at low altitudes, guidance software to improve missile agility, and a new digital signal processor. Funding for the MK 45 Mod 14 TDD advanced technology development has been provided under Conventional Munitions, P.E. 0603609N, Project 1821, and the complementary engineering and transition to production efforts is funded in this line. Continuous analysis of missile capabilities vs. evolving and proliferating aircraft and anti-ship cruise missiles and long-range planning are required to keep pace with the threat. A separate, classified, advanced technology effort began to transition in FY03, and in FY04 a new program started to develop a family of advanced surface missile systems. The Aegis Weapon System, CEC, and airborne early warning systems also will be upgraded in concert with missile development to support a fully integrated extended range detect-to-engage capability.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROJECT NUMBER AND NAME 0439 Standard Missile Improvements		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	4.704			
RDT&E Articles Quantity				
SM-2 Block IIIB MK 45 Mod 14 TDD. FY 04: Transition to production and flight testing and completion of flight testing analysis				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.145	0.150	0.150	0.307
RDT&E Articles Quantity				
Studies: FY04/FY05/FY06/FY07: Failure analyses, technology assessments, analyses of missile capability vs. threat, and long-range planning to keep pace with the evolving and proliferating threat.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	24.894	33.788	11.500	
RDT&E Articles Quantity				
Advanced Surface Missile Demonstration. FY04/ FY05/FY06: Continue transition of advanced technology, program definition, risk reduction, and preparation for feasibility demo				

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROJECT NUMBER AND NAME 0439 Standard Missile Improvements		
B. Accomplishments/Planned Program (Cont.)				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	11.317	11.342	10.776	0.000
RDT&E Articles Quantity				
Replacement of obsolete digital signal processor for SM-2 Block IIIB. FY 04: Requirements definition and preliminary design. FY 05/FY06: Round level integration, Critical Design Review.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			2.500	7.740
RDT&E Articles Quantity				
Interrupted Continuous Wave Illumination (ICWI) FY:06/07: To integrate (ICWI) functionality into the DD (X) ship combat system.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		3.500		
RDT&E Articles Quantity				
Advance Missile Data Link: FY05				

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Exhibit R-2, RD TEN Budget Item Justification
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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROJECT NUMBER AND NAME 0439 Standard Missile Improvements		
B. Accomplishments/Planned Program (Cont.)				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		4.000		
RDT&E Articles Quantity				
Sea Base Terminal: FY05 - Conduct a demonstration of a capability to engage and intercept unitary short range ballistic missiles using an Aegis ship with a modified Linebacker Computer Program and modified SM-2 BLK IV missile against a Lance BM target. The FY05 major tasks to be completed are modification of and firing authorization for the Linebacker Computer Program and the modification and build-up of 2 modified SM-2 BLK IV missile rounds for an FY06 test.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				

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CLASSIFICATION: Unclassified

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604366N/STANDARD MISSILE IMPROVEMENTS	PROJECT NUMBER AND NAME 0439 Standard Missile Improvements		

C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
Funding:				
Presidents Budget (PB05)	42.717	49.792	22.247	0.245
President Budget (PB06)	41.060	52.780	24.926	8.047
Total Adjustments	-1.657	2.988	2.679	7.802
Summary of Adjustments				
ILWI			2.500	7.740
Cancelled Accounts/Undist Reductions	-0.583	-0.512	0.179	0.062
SBIR				
Management Improvement	-1.035			
Advance Missile Data Link		3.500		
Economic Assumptions				
Inflation	-0.039			
Subtotal	-1.657	2.988	2.679	7.802

Schedule:

Not Applicable

Technical:

Not Applicable

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 8 of 32)

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CLASSIFICATION: Unclassified

Exhibit R-3 Cost Analysis (page 1)										DATE:		February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME										
RDT&E, N / BA-5			0604366N/STANDARD MISSILE IMPROVEMENTS			0439 Standard Missile Improvements										
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract		
Design and Analysis																
	SS/CPAF	Raytheon	16.125	37.901	04/04	42.252	11/04	14.528	11/05	5.102	11/06	Continuing	Continuing			
	PR	JHU/APL	1.140	0.500	02/04	7.238	11/04	1.625	11/05	0.245	11/06	Continuing	Continuing			
	MP	MIT	0.000	0.050	03/04	0.200	11/04					Continuing	Continuing			
	WX	NSWC Dahlgren	785.634	0.160	12/04	0.050	11/04	2.500	11/05	1.350	11/06	Continuing	Continuing			
	WX	NSWC/IH	0.049	0.300	12/04							Continuing	Continuing			
	WX	NAWC China Lake	0.435	0.075	01/04							Continuing	Continuing			
	WX	NSWC /PHD	0.120	0.100	01/04	0.040	12/04		11/05			Continuing	Continuing			
	PR	Lockheed Martin				3.000	12/04	2.500	11/05	1.350	11/06	Continuing	Continuing			
	WX	CNO	0.010													
	PD	CMDP	4.795													
	PR	CAN	0.000													
	WX	NSWC/CRANE	0.050													
	WX	ONR	0.000													
	WX	NWS EARLE	0.000													
	WX	COMPTEVFOR	0.100													
	WX	CARDEROCK	0.050													
	WX	WMSR						2.548	11/05			Continuing	Continuing			
	PR	BAE				.25	01/05	0.075	11/05			Continuing	Continuing			
	WX	JSPO						0.200	11/05			Continuing	Continuing			
Subtotal Product Development			808.508	39.086		52.780		23.976		8.047		0.000	Continuing			
Remarks:																

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Exhibit R-2, RD TEN Budget Item Justification
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Exhibit R-3 Cost Analysis (page 2)												DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-5			PROGRAM ELEMENT 0604366N/STANDARD MISSILE IMPROVEMENTS			PROJECT NUMBER AND NAME 0439 Standard Missile Improvements								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NSWC Port Hueneme	0.145					0.175					Continuing	Continuing
	WX	WSMR	0.000										Continuing	Continuing
Operational Test & Evaluation													0.000	
Live Fire Test & Evaluation													0.000	
Test Assets													0.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal T&E			0.145	0.000		0.000		0.175		0.000		0.000	Continuing	
Remarks:														
Contractor Engineering Support	C/CPAF	various	0.082	1.130	12/04		11/04	0.750	11/05				Continuing	Continuing
Government Engineering Support													0.000	
Program Management Support	C/CPAF	various	1.000	0.824	12/04								Continuing	Continuing
Travel			0.028	0.020				0.025					Continuing	Continuing
Transportation													0.000	
SBIR Assessment													0.000	
Subtotal Management			1.110	1.974		0.000		0.775		0.000		0.000	Continuing	
Remarks:														
Total Cost			809.763	41.060		52.780		24.926		8.047		0.000	Continuing	
Remarks:														

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Exhibit R-2, RDTE Budget Item Justification
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Exhibit R-2, RD TEN Budget Item Justification
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CLASSIFICATION: Unclassified

EXHIBIT R-2a, RDT&E Budget Item Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION BA-5				R-1 ITEM NOMENCLATURE 0604366N/STANDARD MISSILE IMPROVEMENTS				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	32.594	53.574	120.708	180.576	208.115	232.944	162.946	70.957
3092/Standard Missile 6 Program	32.594	53.574	120.708	180.576	208.115	232.944	162.946	70.957
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
This project addresses the Navy's requirement for an extended range shipboard air defense missile. The SM-6 Extended Range Active Missile (ERAM) is the Navy's transformational enabler for the Sea Shield Operational Concept and enables the opportunity for Sea Basing Sea Strike. This effort includes risk reduction, and SD&D design, development, insensitive munition improvement, transition to production and operational test of the latest STANDARD Missile with the kinematic performance to defeat current and projected threats that possess low altitude, high altitude, high velocity and maneuver characteristics at the max kinematic range of the missile.								
This program leverages existing missile technology and advanced missile technology. It aligns missile technology roadmaps across the Services (NAVSEA, NAVAIR, USAF, USMC and USA) and missile variants within the Services, taking advantage of the Navy's investment in the Aegis Weapon System, CEC, and airborne early warning systems. This missile will provide an extended range engagement capability to provide the air superiority and the umbrella of protection for joint U.S. forces and allies against the full spectrum of manned-fixed and rotary-wing aircraft, unmanned aerial vehicles, and land attack and anti-ship cruise missiles in flight, thereby contributing to the continuous protection of forward deployed ground maneuver forces as well as theater rear assets as discussed in the Joint TAMD MNS, DPG, QDR, TAMD Capstone Requirements Document, Forward From the Sea, Joint Vision 2010/2020, the 2002/2003 Naval Transformational Roadmap and the Operational Requirements Document for SM-6 Extended Range Active Missile (ERAM).								

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROJECT NUMBER AND NAME 3092/SM-6																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY04</th><th style="width: 15%;">FY05</th><th style="width: 15%;">FY06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">5.480</td><td style="text-align: center;">9.644</td><td style="text-align: center;">11.960</td><td style="text-align: center;">10.919</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY04	FY05	FY06	FY 07	Accomplishments/Effort/Subtotal Cost	5.480	9.644	11.960	10.919	RDT&E Articles Quantity				
	FY04	FY05	FY06	FY 07															
Accomplishments/Effort/Subtotal Cost	5.480	9.644	11.960	10.919															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 80px;">SM-6/AWS & VLS Integration FY04/FY05/FY06/FY07: Aegis Weapon System and MK 41 Vertical Launch System integration.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">27.114</td><td style="text-align: center;">38.930</td><td style="text-align: center;">103.148</td><td style="text-align: center;">150.657</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	27.114	38.930	103.148	150.657	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	27.114	38.930	103.148	150.657															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 80px;">Missile development. FY 04: Planning, requirements definition, trade studies, Milestone B preparation and decision, SD&D Contract Award. FY 05: Preliminary Design Review FY 06: Design Readiness Review (Critical Design Review) FY07: Ground Integration and Test/Environmental Tests/Flight Test Round Integration and Round Level Test * This effort is also integrated with and funded from the Advanced Surface Missile System element of Project K0439</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY05</th><th style="width: 15%;">FY06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td style="text-align: center;">5.000</td><td style="text-align: center;">5.600</td><td style="text-align: center;">19.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY05	FY06	FY 07	Accomplishments/Effort/Subtotal Cost		5.000	5.600	19.000	RDT&E Articles Quantity				
	FY 04	FY05	FY06	FY 07															
Accomplishments/Effort/Subtotal Cost		5.000	5.600	19.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 80px;">SM-6 Insensitive Munitions. FY05/FY06/07 Analyze and conduct tests.</div>																			

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Exhibit R-2, RD TEN Budget Item Justification
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EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-5	0604366N/STANDARD MISSILE IMPROVEMENTS	3092/SM-6	

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2004	FY 2005	FY 2006	FY 2007
President Budget (PB05)	34.210	49.230	165.048	189.757
President Budget PB06)	32.594	53.574	120.708	180.576
Total Adjustments	-1.616	4.344	-44.340	-9.181
Summary of Adjustments				
Cancelled Accounts/Undistributed Reduction	-0.523	-0.656	-0.225	-0.292
Extended Range	5.000			
Management			-0.620	-0.961
Inflation	-0.036		1.237	2.305
Execution Realignment	-5.260			
ERAM Incentive			-15.100	-28.900
SM-6 Incentive Munition		5.000	5.600	19.000
ERAM Reduction			-35.000	
Contract Sppt			-0.032	-0.033
NAVSEA Civilian			-0.200	-0.300
SBIR	-0.797			
Subtotal	-1.616	4.344	-44.340	-9.181

Schedule: SSD CONTRACT AWARDED SEPTEMBER 2004. MS B DAB WAS HELD JUNE 2004.

Technical: TBD.

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005																																				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604366N/STANDARD MISSILE IMPROVEMENTS			PROJECT NUMBER AND NAME 3092/SM6																																					
<p>D. OTHER PROGRAM FUNDING SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 25%;"><u>Line Item No. & Name</u></th> <th style="text-align: right; width: 5%;"><u>FY 2004</u></th> <th style="text-align: right; width: 5%;"><u>FY 2005</u></th> <th style="text-align: right; width: 5%;"><u>FY 2006</u></th> <th style="text-align: right; width: 5%;"><u>FY 2007</u></th> <th style="text-align: right; width: 5%;"><u>FY 2008</u></th> <th style="text-align: right; width: 5%;"><u>FY 2009</u></th> <th style="text-align: right; width: 5%;"><u>FY 2010</u></th> <th style="text-align: right; width: 5%;"><u>FY 2011</u></th> <th style="text-align: right; width: 10%;"><u>To Complete</u></th> <th style="text-align: right; width: 10%;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>WPN 2234</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">98.000</td> <td style="text-align: right;">131.000</td> <td style="text-align: right;">142.445</td> <td style="text-align: right;">CONT.</td> <td style="text-align: right;">CONT.</td> </tr> <tr> <td>QTY</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: right;">15</td> <td style="text-align: right;">25</td> <td style="text-align: right;">30</td> <td></td> <td></td> </tr> </tbody> </table> <p>E. ACQUISITION STRATEGY: *</p> <p style="margin-left: 40px;">SM-6 Acquisition Strategy signed by OSD AT&L 3 March 2004</p> <p>F. MAJOR PERFORMERS: **</p> <p style="margin-left: 40px;">Raytheon Missile Systems, Tucson, Arizona.: SM-6 SD&D Contract awarded September 2004</p> <p><small>* Not required for Budget Activities 1,2,3, and 6</small> <small>** Required for DON and OSD submit only.</small></p>											<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>	WPN 2234	0.000	0.000	0.000	0.000	0.000	98.000	131.000	142.445	CONT.	CONT.	QTY						15	25	30		
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>																																	
WPN 2234	0.000	0.000	0.000	0.000	0.000	98.000	131.000	142.445	CONT.	CONT.																																	
QTY						15	25	30																																			

R-1 SHOPPING LIST - Item No. 106

UNCLASSIFIED

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CLASSIFICATION: Unclassified

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-5			0604366N/STANDARD MISSILE IMPROVEMENTS			3092/SM-6								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development													0.000	
Ancillary Hardware Development													0.000	
Component Development													0.000	
Design and Analysis	PR	RAYTHEON	3.500	21.615	06/04	37.354	11/04	100.066	11/05	155.198	11/06			
	PR	JHU/APL, Laurel MD	0.100	2.100	03/04	3.950	11/04	3.500	11/05	4.000	11/06	Continuing	Continuing	
	PR	MIT Lincoln Lab, Lexington, MA		0.050	03/04	0.300	11/04	0.100	11/05	0.100	11/06	Continuing	Continuing	
	WX	NAWC WD China Lake, CA		0.100	01/04	0.050	11/04	0.100	11/05	0.100	11/06	Continuing	Continuing	
	WX	NSWC Dahlgren, VA	0.050	0.235	01/04	1.385	11/04	1.500	11/05	1.210	11/06	Continuing	Continuing	
	WX	NSWC Indian Head, MD	0.038			0.200	11/04	0.000	11/05	0.000	11/06	Continuing	Continuing	
	WX	NSWC Port Hueneme, CA		0.546	03/04	0.600	11/04	0.500	11/05	0.500	11/06	Continuing	Continuing	
	WX	NSWC Crane, IN				0.020	11/04	0.025	11/05	0.040	11/06	Continuing	Continuing	
	MP	JSPO/EGLIN	1.148	0.720	03/04	0.000	11/04	0.000	11/05	0.000	11/06			
	PR	LOCKHEED MARTIN	3.854			0.000	11/04	0.000	11/05	0.000	11/06			
	WX	NSWC Corona		0.020	01/04	0.025	11/04	0.032	11/05	0.078	11/06		0.077	
	RX	ONR		0.150	02/04	0.150	11/04	0.150	11/05	0.150	11/06			
		NRL		0.090	04/04	0.075	11/04	0.150	11/05	0.150	11/06			
	WX	COMOPTEVFOR		0.135	04/04	0.115	11/04	0.150	11/05	0.150	11/06			
	WX	CARDEROCK				0.150	01/05							
Ship Integration	PR/WX	various	0.070	4.250	02/04	4.100	01/05	8.000	11/05	6.700	11/06	Continuing	Continuing	
	PR/WX	various		1.230	03/04	3.100	01/05	3.360	11/05	3.200	11/06			
Ship Suitability													0.000	
Systems Engineering													0.000	
Training Development													0.000	
Licenses													0.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal Product Development			8.760	31.241		51.574		117.633		171.576		Continuing	Continuing	
Remarks:														
Development Support												Continuing	Continuing	
Software Development													0.000	
Training Development													0.000	
Integrated Logistics Support													0.000	
Configuration Management													0.000	
Technical Data													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000		Continuing	Continuing	

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-5			0604366N/STANDARD MISSILE IMPROVEMENTS			3092/SM-6								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NSWC Port Hueneme, CA	0.000			0.200	11/04	1.000	11/05	5.500	11/06	Continuing	Continuing	
	WX	White Sands Missile Range,	0.000			0.400	11/04	0.100	11/05	0.200	11/06	Continuing	Continuing	
	WX	PMRF						0.400	11/05	1.700	11/06		0.100	
Targets														
Operational Test & Evaluation													0.000	
Live Fire Test & Evaluation													0.000	
Test Assets													0.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal T&E			0.000	0.000		0.600		1.500		7.400		Continuing	Continuing	
Remarks: Remarks:														
Contractor Engineering Support	CPAF	various	0.000	1.300	03/04	1.300	11/04	1.500	11/05	1.500	11/06	Continuing	Continuing	
Government Engineering Support													0.000	
Program Management Support													0.000	
Travel				0.053		0.100		0.075		0.100		Continuing	Continuing	
Labor (Research Personnel)													0.000	
SBIR Assessment													0.000	
Subtotal Management			0.000	1.353		1.400		1.575		1.600		Continuing	Continuing	
Remarks:														
Total Cost			8.760	32.594		53.574		120.708		180.576		Continuing	Continuing	
Remarks: Remarks:														

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EXHIBIT R4, Schedule Profile																								TBD				DATE: February 2005							
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-5												0604366N/STANDARD MISSILE IMPROVEMENTS												3092/SM-6											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4							
Acquisition Milestones			△ MS B																△ MS C								△ FRP								
Design Reviews/Decisions					△ SRR/SFR		△ PDR				△ DRR				△ FRR				△ WSES RB				△ WSES RB				△ IOC								
Hardware Design, Prototype & Test					Prototype/POD					Design Verif/POM				Flt																					
SW Design/FQT				△ GTV-1 △ GTV-2 △ GTV-3																															
Integration & Test															Captive Carry							△ CSEDS			△ WIT		△ WIT								
Test & Evaluation Milestones																			DT-IIB2 EOA							DT IIC OT IIA		OT IIB							
Development Test & Operational Test																																			
Production Milestones																																			
LRIP I FY 09																			△ LRIP AWARD									LRIP I DELIVERY							
LRIP II FY 10																							△ LRIP II AWARD												
FRP FY 11																										△ FRP AWARD									

* Not required for Budget Activities 1, 2, 3, and 6

R-1 SHOPPING LIST - Item No. 106

UNCLASSIFIED

Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 18 of 32)

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Exhibit R-4a, Schedule Detail						DATE:		
						February 2005		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&BA-5	0604366N/STANDARD MISSILE IMPROVEMENTS				3092/SM-6			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Acquisition Strategy	2Q							
J&A	2Q							
Milestone II (MSII)	3Q							
Contract Preparation	2Q-3Q							
SRR		1Q						
SFR		1Q						
Preliminary Design Review (PDR)		4Q						
Design Readiness Review			3Q-4Q					
CSEDS					4Q			
WSESRB					3Q	2Q		
Developmental Testing (DT-IIA1)				1Q-4Q	1Q-4Q			
Developmental Testing (DT-IIA2)						1Q-4Q		
Preproduction Readiness Review (PRR)				4Q				
Milestone C (MS C)						1Q		
Start Low-Rate Initial Production I (LRIP I)						1Q		
Developmental Testing (DT-IIB1)						1Q		
Developmental Testing (DT-IIB2)					2Q-4Q	1Q-2Q		
Start Low-Rate Initial Production II							1Q	
Developmental Testing (DT-IIC/OTIIA)							2Q	
Operational Testing (OT-IIB)							3Q-4Q	
Low-Rate Initial Production I Delivery							4Q	1Q-4Q
Low-Rate Initail Production II Delivery								4Q
IOC								4Q
Full Rate Production (FRP) Decision								1Q
Full Rate Production Start								1Q
First Deployment								1Q

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UNCLASSIFIED

Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 19 of 32)

CLASSIFICATION:

EXHIBIT R-5, Termination Liability Funding For Major Defense Acquisition Programs, RDT&E Contracts							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					R-1 ITEM NOMENCLATURE 0604366/Standard Missile			
PROGRAM	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<p>This is a reimbursable contract that does not specify termination liability.</p> <p>*Liability Costs:</p> <p>* Limitation of Funds (FAR 52.232-22)</p> <p>* Limitation of Cost (FAR 52.232-20)</p>								

R-1 SHOPPING LIST - Item No. 106

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CLASSIFICATION: Unclassified

EXHIBIT R-2a, RDT&E Budget Item Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUAT BA-5				R-1 ITEM NOMENCLATURE 0604366N/STANDARD MISSILE IMPROVEMENTS				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	0.000	2.937	0.000	0.000	0.000	0.000	0.000	0.000
9559/MK-41 Open Architecture Upgrades	0.000	2.937	0.000	0.000	0.000	0.000	0.000	0.000
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The re-architecture of the MK 41 Vertical Launch System (VLS) Launch Control System (LCS) to meet newly established DoD and USN Open Architecture (OA) requirements. The OA compliant LCS would complement the ongoing development of the AEGIS OA weapon system that is projected for deployment of FY 10 DDG Modernization platforms and FY 08 CG Modernization platforms. Funding will be used to initiate the redesign and development of the MK 41 VLS Launch Control System Scope which would include defining system requirements, design, software prototyping, migration of the ICU processor to a processor favored by Aegis, Migration of MECS to Posix-compliant Operation System (OS), Implementation of new LCS software using common functions. This migration to a common processor and operating system will meet both DoD and USN OA Category 3 requirements.								

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROJECT NUMBER AND NAME 9559/MK-41 VLS Open Architecture Upgrades																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 35%;"></th><th style="width: 15%;">FY04</th><th style="width: 15%;">FY05</th><th style="width: 15%;">FY06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td style="text-align: center;">2.937</td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY04	FY05	FY06	FY 07	Accomplishments/Effort/Subtotal Cost		2.937			RDT&E Articles Quantity				
	FY04	FY05	FY06	FY 07															
Accomplishments/Effort/Subtotal Cost		2.937																	
RDT&E Articles Quantity																			
FY05 - Initiate the redesign and requirement development of the MK 41 VLS Launch Control System.																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 35%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td></td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost					RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost																			
RDT&E Articles Quantity																			
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	FY 04	FY05	FY06	FY 07															
Accomplishments/Effort/Subtotal Cost																			
RDT&E Articles Quantity																			

R-1 SHOPPING LIST - Item No. 106

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 22 of 32)

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CLASSIFICATION: Unclassified

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																									
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604366N/STANDARD MISSILE IMPROVEMENTS	PROJECT NUMBER AND NAME 9559/MK-41 VLS Open Architecture Upgrades																																										
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;"></th> <th style="text-align: right; width: 10%;">FY 2004</th> <th style="text-align: right; width: 10%;">FY 2005</th> <th style="text-align: right; width: 10%;">FY 2006</th> <th style="text-align: right; width: 10%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Previous FY06/07OSD Budget: (FY06/07 OSD Controls)</td> <td></td> <td style="text-align: right;">3.000</td> <td></td> <td></td> </tr> <tr> <td>President Budget (FY06/07 Controls)</td> <td></td> <td style="text-align: right;">2.937</td> <td></td> <td></td> </tr> <tr> <td>Total Adjustments</td> <td></td> <td style="text-align: right; border-top: 1px solid black;">-0.063</td> <td></td> <td></td> </tr> <tr> <td>Summary of Adjustments</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Undistributed Reduction</td> <td></td> <td style="text-align: right;">-0.063</td> <td></td> <td></td> </tr> <tr> <td>Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">-0.063</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Technical: TBD.</p>						FY 2004	FY 2005	FY 2006	FY 2007	Funding:					Previous FY06/07OSD Budget: (FY06/07 OSD Controls)		3.000			President Budget (FY06/07 Controls)		2.937			Total Adjustments		-0.063			Summary of Adjustments					Undistributed Reduction		-0.063			Subtotal	0.000	-0.063	0.000	0.000
	FY 2004	FY 2005	FY 2006	FY 2007																																								
Funding:																																												
Previous FY06/07OSD Budget: (FY06/07 OSD Controls)		3.000																																										
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Total Adjustments		-0.063																																										
Summary of Adjustments																																												
Undistributed Reduction		-0.063																																										
Subtotal	0.000	-0.063	0.000	0.000																																								

R-1 SHOPPING LIST - Item No. 106

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 24 of 32)

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UNCLASSIFIED

CLASSIFICATION: Unclassified

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-5			0604366N/STANDARD MISSILE IMPROVEMENTS			9559/MK-41 VLS Open Architecture Upgrades								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development													0.000	
Ancillary Hardware Development													0.000	
Component Development													0.000	
Design and Analysis	PR	LOCKHEED MARTIN				2.500	01/05							
	WX	NSWC Dahlgren, VA				0.437	01/05					Continuing	Continuing	
												Continuing	Continuing	
												Continuing	Continuing	
												Continuing	Continuing	
												Continuing	Continuing	
												Continuing	Continuing	
												Continuing	Continuing	
													0.000	
Ship Integration												Continuing	Continuing	
Ship Suitability													0.000	
Systems Engineering													0.000	
Training Development													0.000	
Licenses													0.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal Product Development			0.000	0.000		2.937		0.000		0.000		Continuing	Continuing	
Remarks:														
Development Support												Continuing	Continuing	
Software Development													0.000	
Training Development													0.000	
Integrated Logistics Support													0.000	
Configuration Management													0.000	
Technical Data													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000		Continuing	Continuing	

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CLASSIFICATION: Unclassified

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-5			0604366N/STANDARD MISSILE IMPROVEMENTS			9559/MK-41 VLS Open Architecture Upgrades								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NSWC Port Hueneme, CA											#REF!	
	WX	White Sands Missile Range, NM											0.000	
	WX	PMRF											0.000	
Targets														
Operational Test & Evaluation													0.000	
Live Fire Test & Evaluation													0.000	
Test Assets													0.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		Continuing	Continuing	
Remarks:														
Contractor Engineering Support	CPAF	various										Continuing	Continuing	
Government Engineering Support													0.000	
Program Management Support													0.000	
Travel												Continuing	Continuing	
Labor (Research Personnel)													0.000	
SBIR Assessment													0.000	
Subtotal Management												Continuing	Continuing	
Remarks:														
Total Cost						2.937						Continuing	Continuing	
Remarks:														

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EXHIBIT R-2a, RDT&E Budget Item Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUAT BA-5				R-1 ITEM NOMENCLATURE 0604366N/STANDARD MISSILE IMPROVEMENTS				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	0.000	1.484	0.000	0.000	0.000	0.000	0.000	0.000
9560/Real Time Image Processing - Silicon Brain	0.000	1.484	0.000	0.000	0.000	0.000	0.000	0.000
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
Real Time Image Processing-Silicon Brain is a three-dimensional artificial neural network processor with near human-level data processing capabilities for applications in smart munition problems like pattern recognition, clutter discrimination, target tracking and target identification. This phase III SBIR technology project may allow higher confidence track and ID functions against current and future threats. Hybrid analog processing may be applicable to both EO/IR and RF systems for missiles and UAVs.								

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CLASSIFICATION: Unclassified

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROJECT NUMBER AND NAME 9560/Silicon Brain																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 35%;"></th><th style="width: 15%;">FY04</th><th style="width: 15%;">FY05</th><th style="width: 15%;">FY06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td style="text-align: center;">1.484</td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY04	FY05	FY06	FY 07	Accomplishments/Effort/Subtotal Cost		1.484			RDT&E Articles Quantity				
	FY04	FY05	FY06	FY 07															
Accomplishments/Effort/Subtotal Cost		1.484																	
RDT&E Articles Quantity																			
<div>Real Time Image Processing - Silicon Brain: FY05 - developing a hardware/software demonstrator to plug directly into a test bed simulator for the SM3 discrimination electronics platform</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 35%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td></td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost					RDT&E Articles Quantity				
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<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 35%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY05</th><th style="width: 15%;">FY06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td></td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY05	FY06	FY 07	Accomplishments/Effort/Subtotal Cost					RDT&E Articles Quantity				
	FY 04	FY05	FY06	FY 07															
Accomplishments/Effort/Subtotal Cost																			
RDT&E Articles Quantity																			

R-1 SHOPPING LIST - Item No. 106

UNCLASSIFIED

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CLASSIFICATION: Unclassified

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																														
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604366N/STANDARD MISSILE IMPROVEMENTS	PROJECT NUMBER AND NAME 9560/Silicon Brain																																															
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 45%;"></th> <th style="width: 10%; text-align: right;">FY 2004</th> <th style="width: 10%; text-align: right;">FY 2005</th> <th style="width: 10%; text-align: right;">FY 2006</th> <th style="width: 10%; text-align: right;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Previous FY06/07OSD Budget: (FY06/07 OSD Controls)</td> <td></td> <td style="text-align: right;">0.000</td> <td></td> <td></td> </tr> <tr> <td>President Budget (FY06/07 Controls)</td> <td></td> <td style="text-align: right;">1.484</td> <td></td> <td></td> </tr> <tr> <td>Total Adjustments</td> <td></td> <td style="text-align: right; border-top: 1px solid black;">1.484</td> <td></td> <td></td> </tr> <tr> <td>Summary of Adjustments</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Management Reform</td> <td></td> <td style="text-align: right;">-0.016</td> <td></td> <td></td> </tr> <tr> <td> Real Time Image Cong Add</td> <td></td> <td style="text-align: right;">1.500</td> <td></td> <td></td> </tr> <tr> <td>Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">1.484</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule:</p> <p style="margin-top: 40px;">Technical: TBD.</p>						FY 2004	FY 2005	FY 2006	FY 2007	Funding:					Previous FY06/07OSD Budget: (FY06/07 OSD Controls)		0.000			President Budget (FY06/07 Controls)		1.484			Total Adjustments		1.484			Summary of Adjustments					Management Reform		-0.016			Real Time Image Cong Add		1.500			Subtotal	0.000	1.484	0.000	0.000
	FY 2004	FY 2005	FY 2006	FY 2007																																													
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R-1 SHOPPING LIST - Item No. 106

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 30 of 32)

R-1 SHOPPING LIST - Item No. 106

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CLASSIFICATION: Unclassified

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME							
RDTE&E, N / BA-5			0604366N/STANDARD MISSILE IMPROVEMENTS				9560/Silicon Brain							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development													0.000	
Ancillary Hardware Development													0.000	
Component Development													0.000	
Design and Analysis	WX	NSWC/DD				1.484								
Subtotal Product Development			0.000	0.000		1.484		0.000		0.000		Continuing	Continuing	
Remarks:														
Development Support												Continuing	Continuing	
Software Development													0.000	
Training Development													0.000	
Integrated Logistics Support													0.000	
Configuration Management													0.000	
Technical Data													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000		Continuing	Continuing	

R-1 SHOPPING LIST - Item No. 106

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CLASSIFICATION: Unclassified

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-5			0604366N/STANDARD MISSILE IMPROVEMENTS			9560/Silicon Brain								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NSWC Port Hueneme, CA											#REF!	
	WX	White Sands Missile Range, NM											0.000	
	WX	PMRF											0.000	
Targets														
Operational Test & Evaluation													0.000	
Live Fire Test & Evaluation													0.000	
Test Assets													0.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		Continuing	Continuing	
Remarks:														
Contractor Engineering Support	CPAF	various										Continuing	Continuing	
Government Engineering Support													0.000	
Program Management Support													0.000	
Travel												Continuing	Continuing	
Labor (Research Personnel)													0.000	
SBIR Assessment													0.000	
Subtotal Management												Continuing	Continuing	
Remarks:														
Total Cost						1.484						Continuing	Continuing	
Remarks:														

R-1 SHOPPING LIST - Item No. 106

UNCLASSIFIED

Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 32 of 32)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification								DATE:			
								February 2005			
APPROPRIATION/BUDGET ACTIVITY						R-1 ITEM NOMENCLATURE					
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /						0604373N Airborne Mine Countermeasures					
BA-5											
COST (\$ in Millions)	Prior Years Cost	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Total Program
Total PE Cost	372.342	88.918	51.450	54.659	50.998	34.059	9.617	23.298	51.576	Continuing	Continuing
Airborne Mine Hunt System / 0529	188.672	18.075	4.750	3.421	4.797	3.419	0.808	9.830	20.781	Continuing	Continuing
ALMDS / 2047	71.050	10.505	3.493	11.539	11.882	6.750	1.949	12.133	18.269	Continuing	Continuing
OASIS / 2427/2883	39.197	14.255	11.097	13.985	12.478	4.470	0.000	0.000	11.170	Continuing	Continuing
AMNS / 2473	69.731	46.083	29.367	23.887	20.281	18.049	5.550	0.000	0.000	0.000	212.948
C4I, Tactics and Mission Planning / 4026	0.000	0.000	1.257	1.827	1.560	1.371	1.310	1.335	1.356	Continuing	Continuing
SNUITT / 9197	3.692	0.000	1.486	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.178
Quantity of RDT&E Articles	6		6		2						14
FY05 Congressional Adds: SNIUTT (\$1.5M)											
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Airborne Mine Countermeasures (AMCM) programs will deploy to the fleet as sensors integrated into the MH-53E and MH-60S platforms in order to provide Mine-Like Object Detection/classification/localization, Mine Identification, mine reacquisition and neutralization, and influence clearance capabilities. The "Next Generation" AMCM systems will provide this set of capabilities to the Carrier Strike Group/Expeditionary Strike Group (CSG/ESG) beginning in Calendar Year 2005. This capability will be of critical importance in littoral zones, confined straits, choke points, and the Amphibious Objective Area (AOA). Some interest in the following areas has been expressed: search and rescue; surface fire support; ASW operations; protection/offense against small craft/vehicles; air to air operations; very shallow water MCM; swimmer defense and torpedo defense.											

R-1 SHOPPING LIST - Item No. 107

UNCLASSIFIED

Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 1 of 45)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2005																																									
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5		R-1 ITEM NOMENCLATURE 0604373N Airborne Mine Countermeasures																																									
<p>(U) B. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;"></th> <th style="text-align: right; width: 15%;"><u>FY 2004</u></th> <th style="text-align: right; width: 15%;"><u>FY 2005</u></th> <th style="text-align: right; width: 15%;"><u>FY 2006</u></th> <th style="text-align: right; width: 15%;"><u>FY 2007</u></th> </tr> </thead> <tbody> <tr> <td>(U) B. PROGRAM CHANGE SUMMARY:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> FY 05 President's Budget</td> <td style="text-align: right;">90.981</td> <td style="text-align: right;">50.514</td> <td style="text-align: right;">25.807</td> <td style="text-align: right;">18.138</td> </tr> <tr> <td> FY06 President's Budget</td> <td style="text-align: right;">88.918</td> <td style="text-align: right;">51.450</td> <td style="text-align: right;">54.659</td> <td style="text-align: right;">50.998</td> </tr> <tr> <td> Total Adjustments</td> <td style="text-align: right;">(2.063)</td> <td style="text-align: right;">0.936</td> <td style="text-align: right;">28.852</td> <td style="text-align: right;">32.860</td> </tr> <tr> <td colspan="5" style="padding-top: 20px;">Summary of Adjustment</td> </tr> <tr> <td> Misc Adjustments</td> <td style="text-align: right;">(2.063)</td> <td style="text-align: right;">(0.564)</td> <td style="text-align: right;">28.852</td> <td style="text-align: right;">32.860</td> </tr> <tr> <td> Congressional Actions</td> <td style="text-align: right;">(2.063)</td> <td style="text-align: right;">0.936</td> <td style="text-align: right;">28.852</td> <td style="text-align: right;">32.860</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule: Acquisition Strategy for the Organic Airborne Mine Countermeasure (OAMCM) programs has changed in order to reflect restructuring to integrate the MH-60S assets availability to support testing. <u>AN/AQS-20A</u> In response to a delay in a test ready MH-60S (deployment platform) and expansion of test/integration requirements, from PB05, the program schedule has been modified to incorporate platform of opportunity (MH-53) CT & DT testing during FY03 through FY04 to mitigate impacts of MH-60S availability. MH-60S DT and MH-60S OT testing will be conducted during FY06 and completed by the end of FY06 in support of an early FY07 FRPD. IOC will now occur by December 07. <u>ALMDS</u> Following Congressional reduction of FY04 procurement units, SH-60F Developmental Testing (DT-IIC) is scheduled for FY05, MH-60S Developmental Testing (DT-IID/E is scheduled for FY07, and Operational Testing (OT) is scheduled for FY07/FY08. MS C and LRIP decision is scheduled for early FY05 to support IOC. A revised Acquisition Program Baseline with updated schedule parameters was signed on 13 March 04. <u>OASIS</u> Schedule adjusted to meet availability of MH-60S helicopter for development testing. MH-53E alternate platform testing will be completed in FY2005 along with an Operational Assessment (OA). MH-60S CT will be completed in FY06, DT testing in FY07, and OT has moved to FY08. LRIP production will begin in FY07 following MH-53E CT/OA a, d MH-60S CT. <u>AMNS</u> MH-60S Block 2B aligned AMNS schedule extends SD&D phase out to end of FY07 but preserves FY07 IOC. MS C will be based on Alternate Platform tests to be conducted in FY05 and FY06. <u>RAMICS</u> MH-60S Block 2B aligned RAMICS extends SD&D phase out to end of FY07 and IOC from FY07 to FY08. Alternate Platform tests are scheduled in FY05 and FY06 to mitigate risk and minimize schedule loss.</p>					<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	(U) B. PROGRAM CHANGE SUMMARY:					FY 05 President's Budget	90.981	50.514	25.807	18.138	FY06 President's Budget	88.918	51.450	54.659	50.998	Total Adjustments	(2.063)	0.936	28.852	32.860	Summary of Adjustment					Misc Adjustments	(2.063)	(0.564)	28.852	32.860	Congressional Actions	(2.063)	0.936	28.852	32.860
	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>																																							
(U) B. PROGRAM CHANGE SUMMARY:																																											
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R-1 SHOPPING LIST - Item No. 107

UNCLASSIFIED

Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 2 of 45)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604373N/Airborne Mine Countermeasures					PROJECT NUMBER AND NAME 0529 Airborne Mine Hunt Systems					
COST (\$ in Millions)	Prior Years Cost	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Total Program
Project Cost	188.672	18.075	4.750	3.421	4.797	3.419	0.808	9.830	20.781	Continuing	Continuing
RDT&E Articles Qty	3										3

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project includes a sonar for mine detection, classification and identification. The Navy does not possess a capability to conduct minefield reconnaissance (mine density and location) at high area search rates. The AN/AQS-20A is being developed to address the emergent requirements for mine identification and to integrate AMCM systems with a MH-60S platform. The AN/AQS-20A will also be the mine hunting sonar component for the Remote Mine hunting System (RMS). The AN/AQS-20A will be developed to meet the requirements of the Organic MCM platforms.

R-1 SHOPPING LIST - Item No. 107

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Exhibit R-2a, RDTEEN Project Justification
(Exhibit R-2a, page 3 of 45)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N , BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604373N Airborne Mine Countermeasures	PROJECT NUMBER AND NAME 0529 Airborne Mine Hunt Systems		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	4.469	0.581	1.920	2.137
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 5px;"> <p>Complete EDM fabrication, including incorporation of Electro-Optic Identification (EOID) sensor capabilities. Conduct EDM testing with maintainability requirements and refurb EDMs. Acquire EOID test units. Commence Pre-Planned Product Improvement (P3I) to improve environmental data collection, 3-D Sonar Imaging, and acoustic identification ability.</p> </div>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	12.846	3.609	1.021	2.000
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 5px;"> <p>Continued integration of towed body with MH-60S console and parallel towed body/MH-60S Console hardware-software integration and testing. Conduct MH-60S DT and begin OT. Continue interface/integration with MH-60S, C4I Interface and MEDAL. Continue development of ILS & supportability products, training materials. Conduct single-site (alternative site) Computer Aided Detection and Computer Aided Classification (CAD/CAC) testing and initiate CAIDC. Conduct parallel MH-60S Console test and common console/Aircraft Integration. Conduct platform of opportunity (MH-53) testing, i.e., CT, DT, AUTEK Tests in addition to WSIT CT and AFCS. Conduct testing on P3I improvements to the sonar and EOID to validate quality of oceanographic data recorded via the Mission Data Recorder to establish an environmental database to be integrate in to MEDAI</p> </div>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.760	0.560	0.480	0.660
RDT&E Articles Quantity				
Total	18.075	4.750	3.421	4.797
<div style="border: 1px solid black; padding: 5px;"> <p>Support completion of MH-60S OT events. Develop documentation in support of FRPDR. Continue development of ILS & supportability products and engineering support. Finalize documentation in support of MS-C requirements. Develop ILS & supportability products and engineering support for P3I improvements</p> </div>				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N , BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604373N Airborne Mine Countermeasures			PROJECT NUMBER AND NAME 0529 Airborne Mine Hunt Systems					
(U) C. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
424800 OPN AQS-20A	0.000	40.297	26.985	51.970	53.220	0.000	0.000	0.000	0.000	172.472
 (U) D. ACQUISITION STRATEGY: *										
Upon successful completion of DT and MS C, Sole Source MH-60S systems LRIP procurement will begin in FY05 & FY06 with a Full Rate Procurement contract following a Full Rate Production Decision Review (FRPDR) in FY07.										

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)											DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME									
RDT&E, N / BA-5			0604373N Airborne Mine Countermeasures			0529 Airborne Mine Hunt Systems									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Hardware/Software Development	SS/CPIF	Raytheon, Portsmouth, RI	21.931	4.469	10/03	0.581	10/04	1.721	10/05	1.637	10/06	Continuing	Continuing		
Hardware/Software Development	C/CPFF	Raytheon, Portsmouth, RI	60.150										60.150		
Hardware/Software Development	WX	NSWC, Panama City, FL	4.966					0.200		0.500	10/06	Continuing	Continuing		
Hardware/Software Development	C/FP	Northrop, Grumman	4.572										4.572		
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
Subtotal Product Development			91.619	4.469		0.581		1.921		2.137		Continuing	Continuing		
Remarks:															
Engineering Services	WX	NSWC, Panama City, FL	24.279	4.100	10/03	1.519	10/04	0.320	10/05	0.150	10/06	Continuing	Continuing		
Engineering Services	C/CPFF	Raytheon, Portsmouth, RI	2.000	1.286	01/04			0.400		0.800	10/06	Continuing	Continuing		
Engineering Services	VAR	Various	51.797	1.371	10/03	0.250	10/04						53.418		
Engineering Services	SS/CPIF	Raytheon, Portsmouth, RI	1.941	1.323	10/03	0.300	10/04						3.564		
													0.000		
ILS Functions	WX	NSWC, Panama City, FL	4.869	0.900	10/03			0.200	10/05	0.230	10/06	Continuing	Continuing		
ILS Functions	SS/CPIF	Raytheon, Portsmouth, RI	0.826					0.050	10/05	0.720		Continuing	Continuing		
ILS Functions	VAR	Various	0.736			0.700	10/04						1.436		
Subtotal Support			86.448	8.980		2.769		0.970		1.900		Continuing	Continuing		
Remarks:															

R-1 SHOPPING LIST - Item No. 107

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 6 of 45)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604373N Airborne Mine Countermeasures			PROJECT NUMBER AND NAME 0529 Airborne Mine Hunt Systems								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
T&E Functions	WX	NSWC, Panama City	6.764	3.104	10/03	0.400	10/04					Continuing	Continuing	
T&E Functions	SS/CPIF	Raytheon, Portsmouth, RI	0.422	0.562	10/03	0.300	10/04	0.050	10/05	0.100	10/06	Continuing	Continuing	
T&E Functions	VAR	Various	1.243	0.200	10/03	0.140	10/04						1.583	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal T&E			8.429	3.866		0.840		0.050		0.100		Continuing	Continuing	
Remarks:														
Management Support			1.787	0.700	10/03	0.500	10/04	0.450	10/05	0.630		Continuing	Continuing	
Travel			0.389	0.060	10/03	0.060	10/04	0.030	10/05	0.030		Continuing	Continuing	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Management			2.176	0.760		0.560		0.480		0.660		Continuing	Continuing	
Remarks:														
Total Cost			188.672	18.075		4.750		3.421		4.797		Continuing	Continuing	
Remarks:														

R-1 SHOPPING LIST - Item No. 107

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 7 of 45)

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CLASSIFICATION:

[illegible]

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 8 of 45)

UNCLASSIFIED

CLASSIFICATION:

[illegible]

R-1 SHOPPING LIST - Item No. 107

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 9 of 45)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604373N Airborne Mine Countermeasures				PROJECT NUMBER AND NAME 2047 Airborne Laser Mine Detection System					
COST (\$ in Millions)	Prior Years Cost	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Total Program
Project Cost	71.050	10.505	3.493	11.539	11.882	6.750	1.949	12.133	18.269	Continuing	Continuing
RDT&E Articles Qty	3										
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Airborne Laser Mine Detection System (ALMDS), designation AN/AES-1, is a non-acoustic Airborne Mine Countermeasures (AMCM) high area coverage system that detects, classifies, and localizes floating and near-surface , moored sea mines. The system is deployed from the MH-60S helicopter and will provide organic airborne mine defense for the Carrier Strike Groups (CSG) and Expeditionary Strike Groups (ESG). The system represents a capability that does not exist in the current Mine Countermeasures (MCM) inventory. ALMDS first spiral development phase, very shallow water capability, begins in FY2006.</p>											

R-1 SHOPPING LIST - Item No. 107

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 10 of 45)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																					
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604373N Airborne Mine Countermeasures	PROJECT NUMBER AND NAME 2047 Airborne Laser Mine Detection System																						
(U) B. Accomplishments/Planned Program																								
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">5.442</td><td style="text-align: center;">2.159</td><td style="text-align: center;">9.180</td><td style="text-align: center;">6.128</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">EDM development, fabrication, software coding. Continue to conduct technical studies, MH-60S Interface, C4I Interface, and MEDAL. Design and implement performance enhancements. Develop algorithms and redesign system for very shallow water capability.</div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	5.442	2.159	9.180	6.128	RDT&E Articles Quantity									
	FY 04	FY 05	FY 06	FY 07																				
Accomplishments/Effort/Subtotal Cost	5.442	2.159	9.180	6.128																				
RDT&E Articles Quantity																								
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.442</td><td style="text-align: center;">0.345</td><td style="text-align: center;">0.096</td><td style="text-align: center;">0.750</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">Integrated Logistics Support and delivery of Technical Data Package Continue to monitor contractor performance and technical review of CDRLs.</div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.442	0.345	0.096	0.750	RDT&E Articles Quantity									
	FY 04	FY 05	FY 06	FY 07																				
Accomplishments/Effort/Subtotal Cost	0.442	0.345	0.096	0.750																				
RDT&E Articles Quantity																								
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">4.621</td><td style="text-align: center;">0.989</td><td style="text-align: center;">2.263</td><td style="text-align: center;">5.004</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr><tr><td>Total</td><td style="text-align: center;">10.505</td><td style="text-align: center;">3.493</td><td style="text-align: center;">11.539</td><td style="text-align: center;">11.882</td></tr></tbody></table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">Developmental Testing-IIC (FY05) Operational Testing (OPEVAL) (FY07/FY08) DT-IID and WSIT CT (FY06/FY07) DT-IIE (FY07)</div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	4.621	0.989	2.263	5.004	RDT&E Articles Quantity					Total	10.505	3.493	11.539	11.882
	FY 04	FY 05	FY 06	FY 07																				
Accomplishments/Effort/Subtotal Cost	4.621	0.989	2.263	5.004																				
RDT&E Articles Quantity																								
Total	10.505	3.493	11.539	11.882																				

R-1 SHOPPING LIST - Item No. 107

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604373N Airborne Mine Countermeasures			PROJECT NUMBER AND NAME 2047 Airborne Laser Mine Detection System			

(U) C. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
424800 OPN	0.000	21.175	5.860	22.180	18.940	53.299	7.916	8.987	Continuing	Continuing

(U) D. ACQUISITION STRATEGY:

In April 2000, the ALMDS program received MS II approval to enter the Engineering and Manufacturing Development (E&MD) phase. Northrop Grumman won the competitively awarded E&MD contract.

The ALMDS E&MD contract with Northrop Grumman has 3 types of incentives: schedule incentive for early delivery of EDM units; technical incentive for performance reliability and maintainability; and a cost incentive - a cost sharing percentage both for an overrun and an under run. Successful completion of DT-IIC, on an alternate platform (SH-60F), will support a Low-Rate Initial Production (LRIP) decision. After a successful OPEVAL on the intended deployment platform (MH-60S), Full-Rate Production will begin. The first full-rate production lot will be delivered in FY09. The remaining production units will be awarded after a full and open competition.

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-5			0604373N Airborne Mine Countermeasures			2047 Airborne Laser Mine Detection System								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware/Software Development	WX	NSWC, Panama City	0.515	0.050	10/03								0.565	
Hardware/Software Development	WX	NSWC, PC, (Prime Contractor)	20.586	2.156	10/03	0.100	10/04	2.668	10/05	2.108	10/06	Continuing	Continuing	
Hardware/Software Development	RCP	Metron	0.625										0.625	
Hardware/Software Development	RCP	SAIC	0.200										0.200	
Hardware/Software Development													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Product Development			21.926	2.206		0.100		2.668		2.108		Continuing	Continuing	
Remarks:														
Engineering Services	WX	NSWC, Panama City	8.449	0.438	10/03	0.375	10/04	1.547	10/05	0.721	10/06	Continuing	Continuing	
Engineering Services	WX	NSWC, PC, (Prime Contractor)	10.530	1.320	10/03	0.305	10/04	1.935	10/05			0.000	14.090	
Engineering Services	VAR	Various	6.284	0.616	10/03	0.400	10/04	1.859	10/05	1.989	10/06	Continuing	Continuing	
Engineering Services	RCP	Various	3.122	0.200	10/03	0.289	10/04	0.200	10/05	0.400	10/06	Continuing	Continuing	
ILS Functions	WX	NSWC, Panama City	1.346	0.100	10/03	0.245	10/04	0.096	10/05	0.500	10/06	Continuing	Continuing	
ILS Functions	WX	NSWC, PC, (Prime Contractor)	5.483	0.242	10/03	0.000	10/04	0.000	10/05	0.250	10/06	Continuing	Continuing	
ILS Functions	VAR	Various/NRL Stennin	1.062										1.062	
ILS Functions	WX	NSWC, Panama City	0.100	0.100		0.100	10/04						0.300	
Subtotal Support			36.376	3.016		1.714		5.637		3.860		Continuing	Continuing	
Remarks:														

R-1 SHOPPING LIST - Item No. 107

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 13 of 45)

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CLASSIFICATION:

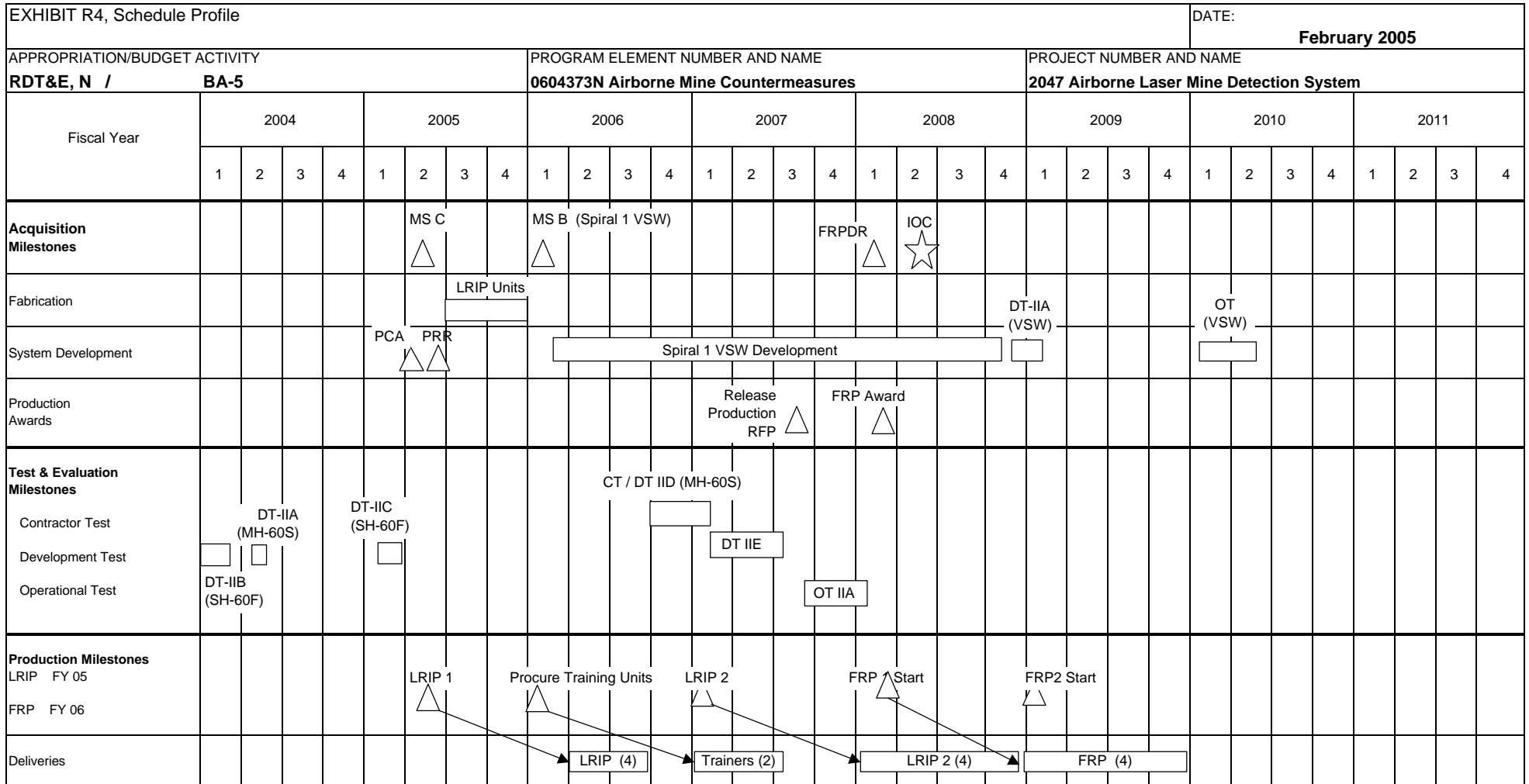
Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME								
RDT&E, N / BA-5			0604373N Airborne Mine Countermeasure				2047 Airborne Laser Mine Detection System								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Testing and Evaluation	WX	NSWC, PC, (Prime Contract)	6.257	1.815	10/03	0.000	10/04	0.100	10/05	1.219	10/06	Continuing	Continuing		
Testing and Evaluation	WX	NSWC, Panama City	2.986	2.407	10/03	0.714	10/04	2.163	10/05	3.785	10/06	Continuing	Continuing		
Testing and Evaluation	VAR	Various	0.392										0.392		
Testing and Evaluation	WX	NSWC, Panama City	0.600	0.399	10/03	0.275	10/04						1.274		
													0.000		
													0.000		
													0.000		
Subtotal T&E			10.235	4.621		0.989		2.263		5.004		Continuing	Continuing		
Remarks:															
Management Support		Travel	0.230	0.030	10/03	0.030	10/04	0.050	10/05	0.050	10/06	Continuing	Continuing		
Management Support	VAR	Various	1.400	0.347	10/03	0.180	10/04	0.616	10/05	0.620	10/06	Continuing	Continuing		
Management Support	WX	NSWC, PC, (Prime Contract)	0.579			0.000	10/04	0.040	10/05	0.180	10/06	Continuing	Continuing		
Management Support	WX	NSWC, Panama City	0.304	0.285	10/03	0.480	10/04	0.265	10/05	0.060	10/06	Continuing	Continuing		
													0.000		
													0.000		
Subtotal Management			2.513	0.662		0.690		0.971		0.910		Continuing	Continuing		
Remarks:															
Total Cost			71.050	10.505		3.493		11.539		11.882		Continuing	Continuing		
Remarks:															

R-1 SHOPPING LIST - Item No. 107

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R-1 SHOPPING LIST - Item No. 107

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 16 of 45)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604373N Airborne Mine Countermeasures					PROJECT NUMBER AND NAME 2427/2883 Organic Airborne and Surface Influence Sweep					
COST (\$ in Millions)	Prior Years Cost	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Total Program
Project Cost	39.197	14.255	11.097	13.985	12.478	4.470	0.000	0.000	11.170	Continuing	Continuing
RDT&E Articles Qty			3								3

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The OASIS system is a towed Minesweeping System that is deployed from specially configured MH-60S helicopters in support of the Carrier Strike Groups (CSG) and Expeditionary Strike Groups (ESG). The system provides a rapid response sweeping capability against bottom and moored, buried, acoustic and magnetic, or combination acoustic/magnetic influence mines in support of mine clearance operations where mine hunting is ineffective. The system consists of a towed body, tow and sweep cable systems, power inverter, power distribution unit and storage/shipping containers. System interfaces with the MH-60S helicopter include the carriage, stream, tow and recovery system and the common console. The program is currently in the SD&D phase where three engineering development models (EDMs) will be developed for test and evaluation. Production is planned to begin with LRIP in FY07 and full rate production to start in FY08. A Pre-Planned Product Improvement (P3I) program will be initiated to develop an autonomous sweep capability in FY11.

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 17 of 45)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																					
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604373N Airborne Mine Countermeasures	PROJECT NUMBER AND NAME 2427/2883 Organic Airborne and Surface Influence Sweep																						
B. Accomplishments/Planned Program																								
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">1.827</td><td style="text-align: center;">1.559</td><td style="text-align: center;">1.936</td><td style="text-align: center;">0.954</td></tr><tr><td>RDT&E Articles Quantity</td><td style="text-align: center;">3</td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	1.827	1.559	1.936	0.954	RDT&E Articles Quantity	3								
	FY 04	FY 05	FY 06	FY 07																				
Accomplishments/Effort/Subtotal Cost	1.827	1.559	1.936	0.954																				
RDT&E Articles Quantity	3																							
<div style="border: 1px solid black; min-height: 60px; padding: 5px;">Continue SD&D contract to complete Design, Conduct CDR, Fabricate 3 EDM, and begin to integrate EDMs into platform. Conduct technical reviews such as PDR, SRDR, and CDR.</div>																								
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">11.063</td><td style="text-align: center;">8.507</td><td style="text-align: center;">11.087</td><td style="text-align: center;">11.088</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	11.063	8.507	11.087	11.088	RDT&E Articles Quantity									
	FY 04	FY 05	FY 06	FY 07																				
Accomplishments/Effort/Subtotal Cost	11.063	8.507	11.087	11.088																				
RDT&E Articles Quantity																								
<div style="border: 1px solid black; min-height: 60px; padding: 5px;">Conduct technical studies on MH-60S interface and other technical studies. Conduct testing including CT/DT/OA on an MH-53E helicopter and CT, DT abd OT on an MH-60S helicopter. Conduct studies on C4I Interface and MEDAL requirements. Conduct engineering and design work.</div>																								
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">1.365</td><td style="text-align: center;">1.031</td><td style="text-align: center;">0.962</td><td style="text-align: center;">0.436</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr><tr><td>Total</td><td style="text-align: center;">14.255</td><td style="text-align: center;">11.097</td><td style="text-align: center;">13.985</td><td style="text-align: center;">12.478</td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	1.365	1.031	0.962	0.436	RDT&E Articles Quantity					Total	14.255	11.097	13.985	12.478
	FY 04	FY 05	FY 06	FY 07																				
Accomplishments/Effort/Subtotal Cost	1.365	1.031	0.962	0.436																				
RDT&E Articles Quantity																								
Total	14.255	11.097	13.985	12.478																				
<div style="border: 1px solid black; min-height: 60px; padding: 5px;">Monitored Contractor performance and technical review of CDRLs. Conduct CDR and PDR. Continue to monitor Contractor performance and technical review of CDRLs. Support platform integration.</div>																								

R-1 SHOPPING LIST - Item No. 107

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604373N Airborne Mine Countermeasures			PROJECT NUMBER AND NAME 2427/2883 Organic Airborne and Surface Influence Sweep					
(U) C. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	To <u>Complete</u>	Total <u>Cost</u>
424800 OPN	0.000	0.000	0.000	7.434	11.550	11.606	0.000	0.000	0.000	30.590
(U) D. ACQUISITION STRATEGY:										
After Milestone B review in FY02, a SD&D contract was awarded. In FY07, following a successful DT and MS C, LRIP procurement options will be exercised. In FY08 after a successful OT Full rate production will begin.										

R-1 SHOPPING LIST - Item No. 107

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-5			Airborne Mine Countermeasures/0604373N			2427/2883 Organic Airborne and Surface Influence Sweep								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware/Software Development	C/CPFF	EDO Corp.	1.722										1.722	
Hardware/Software Development	C/CPIF	EDO Corp.	6.045	1.827	10/03	1.559	10/04	1.936	10/05	0.954	10/06	Continuing	Continuing	
Hardware/Software Development	SS/CPFF	Aeptec Microsystems Inc	5.898									Continuing	Continuing	
		Rockville, MD											0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Product Development			13.665	1.827		1.559		1.936		0.954		Continuing	Continuing	
Remarks:														
Engineering Services	WX	NUWC Keyport	0.659										0.659	
Engineering Services	C/CPIF	EDO Corp	5.656	4.558	10/03	1.104	10/04	1.375	10/05	2.120	10/06	Continuing	Continuing	
Engineering Services	WX	NSWC Panama City	7.211	0.813	10/03	1.693	10/04	2.096	10/05	0.655	10/06	Continuing	Continuing	
Engineering Services	WX	NSWC Carderock MD	0.725										0.725	
Engineering Services/ILS	VAR	Various	0.548										0.548	
Engineering Services	PD	ONR	1.367	2.098	10/03	1.100	10/04	1.890	10/05	1.441	10/06	Continuing	Continuing	
ILS Functions	C/CPIF	EDO Corp	1.396	1.023	10/03	1.065	10/04	0.441	10/05	0.400	10/06	Continuing	Continuing	
ILS Functions	WX	NSWC Panama City	1.181	0.053	10/03	0.311	10/04	0.387	10/05	0.404	10/06	Continuing	Continuing	
Subtotal Support			18.743	8.545		5.273		6.189		5.020		Continuing	Continuing	
Remarks:														

R-1 SHOPPING LIST - Item No. 107

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 20 of 45)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-5			PROGRAM ELEMENT 0604373N Airborne Mine Countermeasures			PROJECT NUMBER AND NAME 2427/2883 Organic Airborne and Surface Influence Sweep								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Test and Evaluation Functions													0.000	
T&E Functions	C/CPIF	EDO Corp	2.659	1.299	10/03	1.172	10/04	1.386	10/05	1.450	10/06	Continuing	Continuing	
T&E Functions	WX	NSWC Panama City, FL	1.286	1.552	10/03	2.062	10/04	3.512	10/05	4.618	10/06	Continuing	Continuing	
T&E Functions	VAR	Various	0.554										0.554	
													0.000	
													0.000	
													0.000	
Subtotal T&E			4.499	2.851		3.234		4.898		6.068		Continuing	Continuing	
Remarks:														
Management Support													0.000	
Management Support	VAR	Various	2.125	1.002	10/03	1.001	10/04	0.932	10/05	0.406	10/06	Continuing	Continuing	
Management Support		Travel	0.165	0.030	10/03	0.030	10/04	0.030	10/05	0.030	10/06	Continuing	Continuing	
													0.000	
													0.000	
													0.000	
Subtotal Management			2.290	1.032		1.031		0.962		0.436		Continuing	Continuing	
Remarks:														
Total Cost			39.197	14.255		11.097		13.985		12.478		Continuing	Continuing	
Remarks:														

R-1 SHOPPING LIST - Item No. 107

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 21 of 45)

UNCLASSIFIED

Exhibit R-4, Schedule Profile
(Exhibit R-4, page 22 of 45)

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 23 of 45)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604373N Airborne Mine Countermeasures				PROJECT NUMBER AND NAME 2473 Airborne Mine Neutralization Systems					
COST (\$ in Millions)	Prior Years Cost	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Total Program
Project Cost	69.731	46.083	29.367	23.887	20.281	18.049	5.550	0.000	0.000	0.000	212.948
RDT&E Articles Qty			AMNS 3		RAMICS 2						5
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:											
<p>The Airborne Mine Neutralization Systems (AMNS) research and development effort was restarted in FY97 in Project 0529 P.E. 0604373N. AMNS will provide the MH-60S helicopter with the capability to neutralize bottom and moored mines using an airborne delivered expendable mine neutralization device. The AMNS is being tested on the MH-53E helicopter to prove out the neutralization effectiveness. The system will also be deployed from the MH-60S helicopter and will provide organic airborne mine defense for Carrier Strike Groups (CSG) and Expeditionary Strike Groups (ESG). This capability will be of critical importance in littoral zones, confined straits, choke points, and the Amphibious Objective Area (AOA). MH-60S Block 2B aligned AMNS, extends SD&D phase out later in the FYDP. MS C will be based on Alternate Platform tests to be conducted in FY05 and FY06 as well as Contractor Testing (CT) on the MH-60S helicopterto be conducted in FY06 and FY07.</p> <p>The AN/AWS-2 Rapid Airborne Mine Clearance System (RAMICS) MIW program began Concept & Technology Development phase in FY00. RAMICS will satisfy the U.S. Navy's need for a rapid mine clearance capability required to neutralize near-surface and surface (floating) moored sea mines. RAMICS will use geo-location data provided by other mine hunting and mine reconnaissance systems, use a laser system to reacquire targets and to direct the fire of supercavitating projectiles that will render the mines inoperable. RAMICS includes the following major subsystems and components:</p> <p>(a) Gun Subsystem (including gun and turret)</p> <p>(b) Munition Subsystem - MK258 Mod 1 Armor Piercing, Fin Stabilized, Discarding Sabot-Tracer (APFSDS-T)</p> <p>(c) Targeting Sensor Subsystem.</p> <p>(d) Fire Control Subsystem.</p> <p>(e) Software</p> <p>The system will be deployed from the MH-60S helicopter and will provide organic airborne mine defense for Carrier Strike Groups (CSG) and Expeditionary Strike Groups (ESG). This capability will be of critical importance in littoral zones, confined straits, choke points, and the Amphibious Objective Area (AOA). Some interest in the following areas has been expressed: search and rescue; surface fire support; protection/offense against small craft/vehicles; air to air operations; very shallow water MCM; swimmer defense and torpedo defense; and ASW capabilities. this program received a Congressional Add in FY04 (\$2M) for RAMICS ASW capabilities. RAMICS ASW capabilities will provide a reliable rapid response weapon system to effectively defeat large surface, near surface, and underwater targets in the littorals. RAMICS program was restructured to align with MH-60S Helicopter Block 2B schedule. Plan includes the use of an alternate test platform to mitigate risk and schedule impacts.</p>											

R-1 SHOPPING LIST - Item No. 107

Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 24 of 45)

UNCLASSIFIED

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604373N Airborne Mine Countermeasures	PROJECT NUMBER AND NAME 2473 Airborne Mine Neutralization Systems		

(U) B. Accomplishments/Planned Program

AMNS	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	14.017	15.416	7.687	12.829
RDT&E Articles Quantity		3		

FY04 ACCOMPLISHMENTS:
Continued design, develop software, and integrated aboard MH-60S, conducted 2105 munition safety testing and environmental testing that includes tests for sympathetic detonation, a 40 foot drop, temperature and humidity, vibration, bullet impact, fragment impact, slow cook-off, and fast cook-off. Continued to monitor Contractor performance and technical review of CDRLs.

FY05 PLAN: Prepare documentation for MH-60S contract award (production), complete development of alternate platform tactical software, and begin alternate platform testing. .

FY06 PLAN: Complete alternate platform testing. Begin MH-60S Contractor Testing (CT). Continue to monitor Contractor performance and technical review of CDRLs. Develop program documentation to achieve MS C.

FY07 PLAN: Complete MH-60S contractor test and initiate MH-60S TECHEVAL. Achieve MS C decision. Exercise Low Rate Initial Production (LRIP) option in SD&D contract.

RAMICS	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	32.066	13.951	16.200	7.452
RDT&E Articles Quantity				2
Total	46.083	29.367	23.887	20.281

FY04 ACCOMPLISHMENTS:
Continued RAMICS MIW design, development under SD&D contract. Conducted DT-IIA by analysis and Critical Design Review (CDR) in May 2004. Started RAMICS ASW capabilities (Sea Sniper) design. Congressional Add for Seasniper capability. Supported DODIG audit.

FY05 PLAN: Continue RAMICS design, develop, and fabrication of Engineering Development Models (EDMs).

FY06 PLAN: Conduct contractor testing (CT) and Development testing (DT) on alternate platform.

FY07 PLAN: Complete DT on alternate platform. Conduct ground test with regression analysis and start captive carriage and jettison testing on the MH-60S helicopter.

R-1 SHOPPING LIST - Item No. 107

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604373N Airborne Mine Countermeasures			PROJECT NUMBER AND NAME 2473 Airborne Mine Neutralization System					
(U) C. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
AMNS 424800 OPN	0.000	0.000	0.000	4.469	4.745	14.615	0.000	0.000	0.000	23.829
AMNS 422500 WPN	0.000	0.000	1.515	4.667	3.514	5.716	4.503	4.282	CONT.	CONT.
(U) D. ACQUISITION STRATEGY:										
<p>In FY07 following a successful alternate platform test, contractor test, and MS-C, an LRIP award is planned for two (2) MH-60S systems. FRPDR is planned for FY09. Full and open competition is planned for the AMNS (MH-60S) FRP contract.</p>										
AMNS ONLY										

R-1 SHOPPING LIST - Item No. 107

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification									DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604373N Airborne Mine Countermeasures			PROJECT NUMBER AND NAME 2473 Airborne Mine Neutralization System				
(U) D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
RAMICS 422500 WPN	0.000	0.000	0.000	0.000	0.000	10.864	24.723	0.000	0	35.587
RAMICS 0019600 PANMC	0.000	0.000	0.000	0.000	0.585	0.586	1.831	0.000	0	3.002
(U) E. ACQUISITION STRATEGY:										
RAMICS: Achieved MS B in July 2002 and awarded SD&D contract in August 2002 based on a full and open competition. Following MS C , a competitive LRIP award is planned for one (2) systems for fleet use. Full Rate Production (FRP) option is scheduled to start in FY10.										

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-5			0604373N Airborne Mine Countermeasures			2473 Airborne Mine Neutralization System								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware/Software Development	C/845	Lockheed Syracuse, NY	3.331										3.331	
Hardware/Software Development	VAR	Various	3.359										3.359	
Hardware/Software Development	WX	NSWC Panama City, FL	0.761	0.512	10/03	0.173	10/04						1.446	
Hardware/Software Development	C/CPIF	Raytheon, Portsmouth RI	6.009	5.898	10/03	3.769	10/04						15.676	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Product Development			13.460	6.410		3.942		0.000				0.000	23.812	
Remarks: AMNS Only														
Engineering Services	VAR	Various	3.300										3.300	
Engineering Services	WX	NSWC Panama City, FL	8.374	3.329	10/03	3.108	10/04	2.681	10/05	3.346	10/06	3.800	24.638	
Engineering Services	C/CPIF	Raytheon, Portsmouth RI	1.951	2.943	10/03	1.210	10/04	0.656	10/05	2.424	10/06	1.854	11.038	
													0.000	
ILS Functions	WX	NSWC Panama City, FL	3.061	0.158	10/03	0.115	10/04	0.089	10/05				3.423	
ILS Functions	SS/BOA	Lockheed Syracuse, NY	0.227										0.227	
ILS Functions	C/CPIF	Raytheon, Portsmouth RI	0.561	0.699	10/03	0.475	10/04	0.320	10/05				2.055	
													0.000	
Subtotal Support			17.474	7.129		4.908		3.746		5.770		5.654	44.681	
Remarks: AMNS ONLY														

R-1 SHOPPING LIST - Item No. 107

UNCLASSIFIED

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 28 of 45)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-5			PROGRAM ELEMENT 0604373N Airborne Mine Countermeasures			PROJECT NUMBER AND NAME 2473 Airborne Mine Neutralization System								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	VAR	Various	0.300										0.300	
Developmental Test & Evaluation	WX	CSS Panama City, FL	8.647			2.092	10/04	0.671	10/05	2.865	10/06	0.000	14.275	
Developmental Test & Evaluation	SS/BOA	Lockheed Syracuse, NY	1.254										1.254	
Developmental Test & Evaluation	C/CPIF	Raytheon, Portsmouth RI				4.064	10/04	2.871	10/05	3.790	10/06	0.000	10.725	
Operational Test & Evaluation	WX	COTF Norfolk, VA	1.388									3.475	4.863	
Operational Test & Evaluation	SS/BOA	Lockheed Syracuse, NY	0.767										0.767	
													0.000	
Subtotal T&E			12.356	0.000		6.156		3.542		6.655		3.475	32.184	
Remarks:														
Program Management Support	VAR	Various	1.038	0.438	10/03	0.370	10/04	0.359	10/05	0.364	10/06	0.268	2.837	
Travel			0.134	0.040	10/03	0.040	10/04	0.040	10/05	0.040	10/06	0.040	0.334	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Management			1.172	0.478		0.410		0.399		0.404		0.308	3.171	
Remarks:														
Total Cost			44.462	14.017		15.416		7.687		12.829		9.437	103.848	
Remarks: AMNS ONLY														

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 29 of 45)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:										
APPROPRIATION/BUDGET ACTIVITY								PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME														
RDT&E, N / BA-5								0604373N Airborne Mine Countermeasures												2473 Airborne Mine Neutralization System														
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011					
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4						
Acquisition Milestones															MS C △																			
Prototype Phase	SD&D Phase (MH-60S)																																	
EDM Contract Award																																		
Significant Events			CDR △					Alternate Platform Testing ▬							Contractor Testing (MH-60S) ▬																			
EDM Deliveries																																		
Test & Evaluation Milestones																																		
Development Test																																		
Operational Test																																		
Production Milestones																																		
PROD (MH-53E) FY 03																																		
LRIP (MH-60S) FY 06																																		
FRP (MH-60S) FY 07																																		
Deliveries																																		

AMNS ONLY

R-1 SHOPPING LIST - Item No. 107

* Not required for Budget Activities 1, 2, 3, and 6

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 30 of 45)

UNCLASSIFIED

CLASSIFICATION:

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R-1 SHOPPING LIST - Item No. 107

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 31 of 45)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME							
RDT&E, N / BA-5			0604373N Airborne Mine Countermeasures				2473 Airborne Mine Neutralization System							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware/Software Development	C/CPIF	Northrop Grumman, FL	5.239	13.691	10/03	5.626	10/04	4.339	11/05	0.649	10/06		29.544	
Hardware/Software Development	WX	CSS - Panama City, FL	1.634			0.614	01/01						2.248	
Hardware/Software Development	RCP	Crane - Crane, IN	1.381										1.381	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Product Development			8.254	13.691		6.240		4.339		0.649		0.000	33.173	
Remarks: This is RAMICS only .														
Engineering Services	C/CPIF	Northrop Grumman, FL	2.177	5.205	10/03	1.290	10/04	1.293	10/05	3.440	10/06	1.500	14.905	
Engineering Services	WX	CSS - Panama City, FL	4.960	1.545	10/03	0.466	10/04	0.322	10/05	0.700	10/06	0.600	8.593	
Engineering Services	Various	Crane - Crane, IN	2.200			0.200				0.300	10/06	0.400	3.100	
Engineering Services	WX	Various	0.725	0.781	10/03			0.880	10/05	0.050	10/06	0.500	2.936	
													0.000	
ILS Functions	C/CPIF	Northrop Grumman, FL	1.309	2.957	10/03	1.783	10/04	0.943	10/05			1.000	7.992	
ILS Functions	WX	CSS Panama City, FL	0.484	0.401	10/03	0.260	10/04	0.255	10/05			0.764	2.164	
ILS Functions	Various	Various		1.500	10/03			0.280	10/05				1.780	
Subtotal Support			11.855	12.389		3.999		3.973		4.490		4.764	41.470	
Remarks: This is RAMICS only .														

R-1 SHOPPING LIST - Item No. 107

UNCLASSIFIED

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 32 of 45)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604373N Airborne Mine Countermeasures			PROJECT NUMBER AND NAME 2473 Airborne Mine Neutralization System								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Test & Evaluation	C/CPIF	Northrop Grumman, FL	0.082	2.248	10/03	0.489	10/04	3.590	10/05	0.416	10/06	1.521	8.346	
Test & Evaluation	WX	CSS - Panama City, FL	1.130	0.100	10/03	1.917	10/04	2.885	10/05	0.400	10/06	2.000	8.432	
Test & Evaluation	WX	Crane - Crane, IN	0.500			0.216	10/04	0.190	10/05	0.167	10/06	0.217	1.290	
Test & Evaluation	Various	Various	1.646	3.142	10/03	0.769	10/04	0.893	10/05	1.000	10/06	5.000	12.450	
													0.000	
													0.000	
													0.000	
Subtotal T&E			3.358	5.490		3.391		7.558		1.983		8.738	30.518	
Remarks: This is RAMICS only .														
Management Support	Various	Various	1.684	0.462	10/03	0.300	10/04	0.300	10/05	0.300	10/06	0.600	3.646	
Management Support		Travel	0.118	0.034	10/03	0.021	10/04	0.030	10/05	0.030	10/06	0.060	0.293	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Management			1.802	0.496		0.321		0.330		0.330		0.660	3.939	
Remarks: This is RAMICS only .														
Total Cost			25.269	32.066		13.951		16.200		7.452		14.162	109.100	
Remarks: This is RAMICS only .														

R-1 SHOPPING LIST - Item No. 107

UNCLASSIFIED

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 33 of 45)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
APPROPRIATION/BUDGET ACTIVITY								PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME												
RDT&E, N / BA-5								0604373N Airborne Mine Countermeasures												2473 Airborne Mine Neutralization System												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones																			MSC △							FRPD △	IOC ☆					
Program Phases	System Development and Demonstration (SD&D) <div></div>																															
Significant Events			CDR ▲																													
EDM Delivery																EDM (2) △																
Test & Evaluation Milestones																																
Development Test																																
Operational Test																																
Production Milestones																																
LRIP FY09																																
FRP FY 10																																
Deliveries																																

RAMICS ONLY

R-1 SHOPPING LIST - Item No. 107

* Not required for Budget Activities 1, 2, 3, and 6

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 34 of 45)

UNCLASSIFIED

CLASSIFICATION:

[illegible]

R-1 SHOPPING LIST - Item No. 107

UNCLASSIFIED

Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 35 of 45)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME					PROJECT NUMBER AND NAME					
RDT&E, N / BA-5	0604373N Airborne Mine Countermeasures					4026 - C4I, Tactics, and Mission Planning					
COST (\$ in Millions)	Prior Years Cost	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Total Program
Project Cost	0.000	0.000	1.257	1.827	1.560	1.371	1.310	1.335	1.356	Continuing	Continuing
RDT&E Articles Qty											0

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The C4I, Tactics, Mission Planning, and Post-Mission Analysis (CTMP) program began in FY97 as an initiative to provide near-real-time data linking of mine sensor data between the MH-53E aircraft and ship- and/or shore-based command centers. Additionally, the program began to develop MEDAL modules for each "Next Generation" system; and plans to develop "Next Generation" tactics; provide threat data and system requirements and capabilities to the MEDAL software development effort; and develop a common post-mission analysis tool for "Next Generation" systems. This program was previously funded under PE-0603502N, project 1233.

R-1 SHOPPING LIST - Item No. 107

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 36 of 45)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604373N Airborne Mine Countermeasures	PROJECT NUMBER AND NAME 4026 - C4I, Tactics, and Mission Planning		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		0.625	0.570	0.346
RDT&E Articles Quantity				
Mission Planning and Post Mission Analysis (MEDAL)				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		0.310	0.745	0.740
RDT&E Articles Quantity				
Common Post Mission Analysis (PMA)				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		0.322	0.512	0.474
RDT&E Articles Quantity				
Total		1.257	1.827	1.560
Tactics Evaluation, Data Bases, and Algorithms Tactics Documentation and Training				

R-1 SHOPPING LIST - Item No. 107

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005																								
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604373N Airborne Mine Countermeasures			PROJECT NUMBER AND NAME 4026 - C4I, Tactics, and Mission Planning																									
<p>(U) C. OTHER PROGRAM FUNDING SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Line Item No. & Name</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2004</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2005</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2006</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2007</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2008</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2009</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2010</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2011</th> <th style="text-align: center; border-bottom: 1px solid black;">To Complete</th> <th style="text-align: center; border-bottom: 1px solid black;">Total Cost</th> </tr> </thead> <tbody> <tr> <td colspan="11" style="padding-top: 20px;">N/A</td> </tr> </tbody> </table> <p style="margin-top: 20px;">(U) D. ACQUISITION STRATEGY:</p> <p>An initial Common Post-Mission Analysis (CPMA) capability for the OAMCM systems will be developed by Northrop Grumman, Melbourne, FL. This will be a cost-plus effort contracted through NSWC-PC. The CPMA project will leverage existing system-specific developmental PMA software, maximize commonality, and host the software on a common shipboard computer. Development of OAMCM-system-specific MEDAL modules will be performed by SAIC, McLean, VA. This effort will include post-test updates for the system-specific MEDAL modules to allow transition to a Fleet release. NSWC-PC will contract for this work on a time and materials basis. The tactics development, tactics training, and tactics algorithms/database efforts are performed by NSWC-PC. These efforts will provide reach back support as the OAMCM systems begin to be fielded; will develop modifications to environmental databases necessary to support OAMCM mission planning; will update the MIW Tactics Continuum to address OAMCM; and will update the gear and mine database for threats addressed by the OAMCM systems.</p>										Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost	N/A										
Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost																					
N/A																															

R-1 SHOPPING LIST - Item No. 107

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)											DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604373N Airborne Mine Countermeasures			PROJECT NUMBER AND NAME 4026 - C4I, Tactics, and Mission Planning								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware/Software Development	RX	SAIC				0.300	10/04	0.455	10/05	0.255	10/06	Continuing	Continuing	
Hardware/Software Development	RCP	Northrop Grumman				0.295	10/04					0.000	0.295	
Hardware/Software Development	WX	NSWC, Panama City, FL						0.424	10/05	0.404	10/06	Continuing	Continuing	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Product Development			0.000	0.000		0.595		0.879		0.659		0.000	2.133	
Remarks:														
Engineering Services	RX	SAIC				0.214	10/04	0.000				0.000	0.214	
Engineering Services	WR	NAVO				0.015	10/04	0.015	10/05	0.015	10/06	Continuing	Continuing	
Engineering Services	VAR	Various						0.369	10/05	0.270	10/06	Continuing	Continuing	
Engineering Services	WX	NSWC, Panama City, FL				0.306	10/04	0.404	10/05	0.416	10/06	Continuing	Continuing	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Support			0.000	0.000		0.535		0.788		0.701		Continuing	Continuing	
Remarks:														

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-5			PROGRAM ELEMENT 0604373N Airborne Mine Countermeasures			PROJECT NUMBER AND NAME 4026 - C4I, Tactics, and Mission Planning								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Test and Evaluation	WX	NSWC, Panama City, FL								0.040	10/06	Continuing	Continuing	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.040		Continuing	Continuing	
Remarks:														
Management Support	WX	NSWC, Panama City, FL						0.140	10/05	0.140	10/06	Continuing	Continuing	
Management Support	RX	SAIC				0.127	10/04	0.020	10/05	0.020	10/06	Continuing	Continuing	
													0.000	
													0.000	
													0.000	
Subtotal Management			0.000	0.000		0.127		0.160		0.160		Continuing	Continuing	
Remarks:														
Total Cost			0.000	0.000		1.257		1.827		1.560		Continuing	Continuing	
Remarks:														

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 40 of 45)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-5									0604373N Airborne Mine Countermeasures												4026 - C4I, Tactics, and Mission Planning											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
MEDAL				Final Interim Build (AMNS, OASIS, RAMICS)					Factory Acceptance Test, Analyze, Fix (AMNS, OASIS, RAMICS)																							
Common PMA					CPMA SW,HW, TDP Complete				OAMCM S/W development																							
									AN/AQS-20A S/W																							
													AMNS S/W																			
													OASIS S/W																			
																	ALMDS S/W															
																	RAMICS S/W															
Tactics & Databases																																
OAMCM Environmental Data Report																																
MIW Commanders Handbook																																
Reachback support OAMCM																																
Environmental Database Modifications																																
Gear & Mine Database update																																
MIW Tactics Continuum Update																																

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CLASSIFICATION:

[illegible]

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 42 of 45)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604373N Airborne Mine Countermeasures				PROJECT NUMBER AND NAME 9179 Surface Navy Integrated Undersea Tactical Technology					
COST (\$ in Millions)	Prior Years Cost	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Project Cost	3.692	0.000	0.000	0.000	1.486	0.000	0.000	0.000	0.000	0.000	5.178
RDT&E Articles Qty											0
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This congressional add for Surface Navy Integrated Undersea Tactical Technology (SNIUTT) will be used to develop AN/AQS-14, AN/AQS-24 and AN/AQS-20A sensor training module for a LAN-based Surface Network Embedded Analysis and Tactical Trainer (SNEATT).</p>											

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA -5	PROGRAM ELEMENT NUMBER AND NAME 0604373N Airborne Mine Countermeasures	PROJECT NUMBER AND NAME Q9179 Surface Navy Integrated Undersea Tactical Technology		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	1.486	0.000	0.000
RDT&E Articles Quantity				
<div>Congressional Add. - Investigate development of an AN/AQS-14, AN/AQS-24 and AN/AQS-20A sensor training module for a LAN-based Surface Network Embedded Analysis and Tactical Trainer (SNEATT).</div>				

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)											DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604373N Airborne Mine Countermeasures					PROJECT NUMBER AND NAME 9179 Surface Navy Integrated Undersea Tactical Technology (SNIUTT)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware/Software Development	C/CPFF	AAC, Ronkonkoma, NY	3.359			1.236	03/05						4.595	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Product Development			3.359			1.236		0.000		0.000		0.000	4.595	
Remarks:														
Development Support	WR	NSWC, PC Panama City, FL	0.333			0.250	03/05						0.583	
Software Development													0.000	
Training Development													0.000	
Integrated Logistics Support													0.000	
Configuration Management													0.000	
Technical Data													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal Support			0.333			0.250		0.000		0.000		0.000	0.583	
Remarks:														
Total Cost			3.692			1.486		0.000		0.000		0.000	5.178	

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 45 of 45)

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE:	
							February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION , NAVY/ BA-5					R-1 ITEM NOMENCLATURE 0604503N/Submarine Systems Equipment Development			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	82.173	95.082	95.499	111.507	125.021	129.015	106.998	116.632
0775/Submarine Support Equipment	1.432	1.357	1.405	1.690	1.370	1.401	1.435	1.470
0219/Submarine Sonar Improvements	60.348	40.281	54.333	73.343	73.766	70.320	66.751	79.148
0742/Submarine Integrated Antenna Systems	7.186	25.274	24.972	18.492	31.913	41.599	27.689	25.289
1411/Submarine Tactical Communications Systems	11.857	7.573	14.789	17.982	17.972	15.695	11.123	10.725
9384 Littoral Tactical Array System (LTAS)	1.350	6.733						
9562 Advance Processor Builds - MPP/A-RCI		9.906						
9562 Advance Processor Builds - MPP/A-RCI		3.958						
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Submarine Support Equipment Program develops and improves submarine Electronic Warfare Support (EWS) techniques, components, equipment, and systems that will increase submarine operational effectiveness, safety of ship, and survivability in the increasingly dense and sophisticated electromagnetic environment caused by the proliferation of complex radar, communications, and navigation equipment of potential adversaries. Improvements are necessary for submarine EWS to be operationally effective in the following mission areas: Joint Littoral Warfare, Joint Surveillance, Space and Electronic Warfare and Intelligence Collection, Maritime Protection, and Joint Strike.</p> <p>The Submarine Sonar Improvement Program delivers block updates to Sonar Systems installed on SSN 688, 688I, 21, TRIDENT and SSGN Class Submarines to maintain clear acoustic, tactical and operational superiority over submarine and surface combatants in all scenarios through detection, classification, localization and contact following. Current developments are focused on supporting Littoral Warfare, Regional Sea Denial, Battle Group Support, Diesel Submarine Detection, Surveillance, and Peacetime Engagement.</p> <p>The Submarine Integrated Antenna Systems project develops the antennas needed to communicate in networks such as Ultra High Frequency Satellite Communications, Extremely Low Frequency (ELF), Extremely High Frequency (EHF), Super High Frequency and Global Positioning System. Hardware developments include: (a) mast-mounted systems; (b) buoyant cable systems; (c) expendable buoy systems and (d) submarine antenna distribution systems.</p> <p>The Submarine Tactical Communications Systems project provides attack submarines with an exterior communications system which: (a) minimizes the time required at communications depth; (b) enhances operability, reducing errors and manpower requirements; and (c) provides flexibility for low impact growth and change throughout the life of the submarine. Design efforts will provide increased antenna signal distribution and interconnection subsystems to accommodate ELF, EHF, and Mini-Demand Assigned Multiple Access and a message storage and processing subsystem.</p>								

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604503N/Submarine System Equipment Development				PROJECT NUMBER AND NAME 0775/Submarine Support Equipment			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	1.432	1.357	1.405	1.690	1.370	1.401	1.435	1.470
RDT&E Articles Qty								
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program develops and improves techniques, components, equipment, and systems that will increase submarine operational effectiveness, safety of ship, and survivability in the increasingly dense and sophisticated electromagnetic environment caused by the proliferation of complex radar, communications, and navigation equipment of potential adversaries. Improvements are necessary for Submarine Electronic Warfare Support Measures (ES) systems to be operationally effective in the following mission areas: Joint Littoral Warfare; Joint Surveillance, Space and Electronic Warfare and Intelligence Collection; Maritime Protection; and Joint Strike. Specific efforts include: (1) Integration of the technology developed and transitioned from the Advanced Submarine Support Equipment Program (ASSEP), project F0770 into the tactical ES system (2) Resolution of software trouble reports during technology integration tests, ie. PSR, LPI, Fleet Feedback Reports, etc. and (3) Integration, test, and installation of COTS technology for system enhancements.</p> <p>The program supports three submarine mission support categories; Threat Warning/Self Protection; Situational Awareness; and Intelligence, Surveillance and Reconnaissance (ISR). Threat Warning/Self Protection projects evaluate the vulnerability of submarine masts, periscopes and sensors to visual, radar, and infrared detection. It also evaluates state of the art technology to implement periscope/mast and engineering improvements into the tactical ES system, ie AN/BLQ-10 to reduce counter detection threats. Both Situational Awareness and ISR projects develop submarine unique improvements based on emerging technologies that are available from DOD Exploratory Development programs, industry independent Research and Development, and other sources.</p> <p>Threat Warning/Self Protection sub-projects include: Low Probability of Intercept (LPI) Receiver and AN/BLQ-10 software enhancements.</p> <p>Situational Awareness sub-projects include: integration of Automatic Identification System (AIS), Multifunction Modular Mast (MMM) Antenna, and Situational Awareness Bouy.</p> <p>ISR sub-projects include: Passive Surveillance Radar (PSR) , Advanced EW Tuners, MMM Antenna., and Situational Awareness Bouy.</p> <p>This RDTE Funding line supports the entire AN/BLQ-10 ES procurement program.</p>								

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 2 of 52)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604503N/Submarine System Equipment Development	PROJECT NUMBER AND NAME 0775/Submarine Support Equipment		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.432			
RDT&E Articles Quantity				
Commence integration of LPI Receiver into AN/BLQ-10. Plan At Sea Test of Specific Emitter Identification and Automatic Contact Correlation. Non-nuclear Propulsion Electronics System (NPES) software baseline changes. Research and resolve AN/BLQ-10 SPRs. ESM software enhancements. Passive Surveillance Radar (PSR) Mobile Host Modification. Support development of MMM Antenna and new classified capabilities				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		1.357		
RDT&E Articles Quantity				
Conduct At Sea Test of Specific Emitter Identification, Automatic Contact Correlation, and LPI Receiver NPES software baseline changes. Research and resolve AN/BLQ-10 SPRs. ESM software enhancements. Integrate Galelite into AN/BLQ-10. Integrate AIS into AN/BLQ-10 Support development of MMM Antenna and new classified capabilities				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			1.405	
RDT&E Articles Quantity				
NPES software baseline changes. Research and resolve AN/BLQ-10 SPRs. ESM software enhancements. LPI Spiral 1 Development (Ultra Wide Chirp). At-Sea Test of Galelite and AIS with AN/BLQ-10. Support development of MMM Antenna. LPI Receiver Spiral 1 Development.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost				1.690
RDT&E Articles Quantity				
NPES software baseline changes. Research and resolve AN/BLQ-10 SPRs. ESM software enhancements. Support development of MMM Antenna. Commence integration of Situational Awareness Buoy with AN/BLQ-10. LPI Receiver Spiral 2 Development.				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604503N/Submarine System Equipment Development	PROJECT NUMBER AND NAME 0775/Submarine Support Equipment																																					
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;">Funding:</th> <th style="text-align: right; width: 12.5%;">FY 2004</th> <th style="text-align: right; width: 12.5%;">FY 2005</th> <th style="text-align: right; width: 12.5%;">FY 2006</th> <th style="text-align: right; width: 12.5%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>FY05 President's Budget</td> <td style="text-align: right;">1.432</td> <td style="text-align: right;">1.387</td> <td style="text-align: right;">1.410</td> <td style="text-align: right;">1.691</td> </tr> <tr> <td>FY06 President's Budget</td> <td style="text-align: right;">1.432</td> <td style="text-align: right;">1.357</td> <td style="text-align: right;">1.405</td> <td style="text-align: right;">1.690</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">-0.030</td> <td style="text-align: right; border-top: 1px solid black;">-0.005</td> <td style="text-align: right; border-top: 1px solid black;">-0.001</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td>Programmatic adjustments</td> <td></td> <td style="text-align: right;">-0.03</td> <td style="text-align: right;">-0.005</td> <td style="text-align: right;">-0.001</td> </tr> <tr> <td>Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">-0.030</td> <td style="text-align: right; border-top: 1px solid black;">-0.005</td> <td style="text-align: right; border-top: 1px solid black;">-0.001</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule:</p> <p style="margin-left: 20px;">Not Applicable. Changes were negligible and absorbed within the Program of Record.</p> <p style="margin-top: 40px;">Technical:</p> <p style="margin-left: 20px;">Not Applicable. Changes were negligible and absorbed within the Program of Record.</p>					Funding:	FY 2004	FY 2005	FY 2006	FY 2007	FY05 President's Budget	1.432	1.387	1.410	1.691	FY06 President's Budget	1.432	1.357	1.405	1.690	Total Adjustments	0.000	-0.030	-0.005	-0.001	Summary of Adjustments					Programmatic adjustments		-0.03	-0.005	-0.001	Subtotal	0.000	-0.030	-0.005	-0.001
Funding:	FY 2004	FY 2005	FY 2006	FY 2007																																			
FY05 President's Budget	1.432	1.387	1.410	1.691																																			
FY06 President's Budget	1.432	1.357	1.405	1.690																																			
Total Adjustments	0.000	-0.030	-0.005	-0.001																																			
Summary of Adjustments																																							
Programmatic adjustments		-0.03	-0.005	-0.001																																			
Subtotal	0.000	-0.030	-0.005	-0.001																																			

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification									DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604503N/Submarine System Equipment Development			PROJECT NUMBER AND NAME 0775/Submarine Support Equipment				

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
OPN Line 256000/256005										
ML007 ICADF	12.584	9.079	17.490	6.448	17.327	16.689	12.142	-	Complete	91.759
ML008 ICADF Antenna	8.789	10.529	15.770	9.580	17.047	19.833	22.714	23.123	Continuing	Continuing
ML009 APB-EW	0.668	1.452	0.150	0.282	1.648	1.178	1.087	1.246	Continuing	Continuing
ML010 Tech Refresh Upgrades	3.456	2.093	0.160	0.306	1.718	1.226	1.131	1.296	Continuing	Continuing
ML011 AN/WLR-8 R&M FCKs	0.509	0.881	0.489	0.399	0.308	0.312	0.316	0.321	Continuing	Continuing
ML013 ESM IMA Support	0.176	0.041	0.182	0.186	0.190	0.193	0.197	0.201	Continuing	Continuing
ML015 AN/BLQ-10(V) SSN ES Backfit System	17.998	35.360	45.682	44.878	45.261	52.630	46.962	13.494	Continuing	Continuing
ML016 AN/BLQ-10(V) SSBN ES Systems	-	-	-	-	-	-	6.248	38.244	Continuing	Continuing
ML017 AN/BLQ-10 Field Change Kits	3.621	7.013	4.361	8.747	6.030	4.336	4.999	17.589	Continuing	Continuing
SCN LI 201300										
PE 0204287N	10.749	18.777	19.151	19.532	19.922	48.901	48.901	48.901	Continuing	234.834
Partial (AN/BLQ-10 ES Only)										

Related RDT&E:
(U) PE 0603562N/Submarine Tactical Warfare System/F0770 Advanced Submarine Support Equipment Program (ASSEP)

E. ACQUISITION STRATEGY: *

AN/BLQ-10 (V) ES System - Procurements are executed/managed in accordance with the Acquisition Strategy Report (Rev 3) for AN/BLQ-10(V) ES System dtd 10/11/00 and the Acquisition Plan (Rev 4) for AN/BLQ-10(V) ES System dtd 3/27/03; Rev 5 is in routing for approval.

F. MAJOR PERFORMERS: **

Lockheed-Martin, Syracuse, NY - AN/BLQ-10 system developer
 NUWC, Newport, RI - EW Library developer, AN/BLQ-10 systems engineering, TEMPALT development, integration test support., and TDA support.
 NAWC, China Lake - PSR controller software development, Patriot Systems Engineering

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME									
RDT&E, N / BA-5			0604503N/Submarine System Equipment Development			0775/Submarine Support Equipment									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
AN/BLQ-10 ES Product Improvement	CPFF	Lockheed Syracuse, NY		0.418	04/04	0.430	12/04	0.471	12/05	0.671	12/06	CONT	CONT	NA	
Systems Engineering	WR	NUWC Newport, RI		0.357	12/03	0.417	11/04	0.476	11/05	0.546	11/06	CONT	CONT	N/A	
PSR Improvements and Test	WR	NAWC China Lake		0.136	03/04							CPLT	0.136		
Miscellaneous	VARIOUS	VARIOUS		0.073	04/04	0.024	NA	0.008	11/05	0.018	11/05	0.000	0.123	N/A	
Subtotal Product Development			0.000	0.984		0.871		0.955		1.235		CONT	CONT	N/A	
Remarks:															
Development Support													0.000		
Software Development													0.000	NA	
Training Development													0.000		
Integrated Logistics Support													0.000		
Configuration Management													0.000		
Technical Data													0.000		
Engineering Technical Services	CPFF	AT&T GSI, Vienna VA		0.200	07/04	0.250	11/04	0.208	11/05	0.213	11/06	CONT	CONT	NA	
GFE													0.000		
Subtotal Support			0.000	0.200		0.250		0.208		0.213		CONT	CONT		
Remarks:															

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604503N/Submarine System Equipment Development			PROJECT NUMBER AND NAME 0775/Submarine Support Equipment								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation													0.000	
Operational Test & Evaluation													0.000	
Live Fire Test & Evaluation													0.000	
Test Assets													0.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
Contractor Engineering Support													0.000	
Government Engineering Support													0.000	
Management Support Services													0.000	
Travel				0.150	11/03	0.150	11/04	0.150	11/05	0.150	11/06	CONT	CONT	
Labor (Research Personnel)													0.000	
SBIR Assessment				0.098		0.086		0.092		0.092		CONT	CONT	
Subtotal Management				0.248		0.236		0.242		0.242		CONT	CONT	
Remarks:														
Total Cost			0.000	1.432		1.357		1.405		1.690		CONT	CONT	
Remarks:														

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER			PROJECT NAME AND NUMBER					
RDT&E, N/BA-5	0604503N/Submarine Sys Equip Development			0775/Submarine Support Equipment					
SSEP F0775 SCHEDULE	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11
Specific Emitter ID/Auto Contact Correlation		At Sea Test							
AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancements		S/W Update	S/W Update	S/W Update	S/W Update	S/W Update	S/W Update	S/W Update	S/W Update
Low Probability of Intercept (LPI) Receiver	Design	Integration	At Sea Test	Spiral 1	Spiral 2				
Automatic Identification System (AIS)			Integration	At Sea Test					
Advanced EW Tuners							Research	Integration	
Situational Awareness Bouy					Research	Integration		At Sea Test	
GALE Lite		Integration		At Sea Test					
CADF/Multifunctional Antenna		Specification		Integration		Spiral 1		Spiral 2	
Passive Surveillance Radar (PSR)	At Sea Test	Mobile Host	At Sea Test						

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Exhibit R-4, RDT&E Project Justification

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 8 of 52)

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Exhibit R-4a, Schedule Detail						DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-5		PROGRAM ELEMENT 0604503N/Submarine Sys Equip Development			PROJECT NUMBER AND NAME 0775/Submarine Support Equipment				
Schedule Profile		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancements		2Q	2Q	2Q	2Q	2Q	2Q	2Q	2Q
Specific Emitter ID/ACC									
	At -Sea Test		2Q						
GALE Lite									
	Integration	4Q							
	At -Sea Test			2Q					
CADF/IW Multifunction Antenna									
	S/W Specification	3Q							
	Integration			3Q					
	Spiral 1					2Q			
	Spiral 2							2Q	
Passive Surveillance Radar (PSR)									
	At -Sea Test	CMPLT							
	Spiral 2 (Mobile Host)	2Q							
	At -Sea Test	4Q							
Advanced EW Tuners									
	Research						2Q		
	Integration							2Q	
LPI									
	Integration	2Q							
	At -Sea Test		1Q						
	Spiral 1			2Q					
	Spiral 2				2Q				
AIS									
	Integration		3Q						
	At -Sea Test			3Q					
Situational Awareness Bouy									
	Research				2Q				
	Integration					2Q			
	At -Sea Test							2Q	

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604503N/Submarine Systems Equipment Development				PROJECT NUMBER AND NAME 0219/Submarine Sonar Improvement			
COST (\$ in Millions)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
Project Cost	60.348	40.281	54.333	73.343	73.766	70.320	66.751	79.148
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program delivers block updates to Sonar Systems installed on SSN 688, 688I, 21, SSGN and TRIDENT Class Submarines to maintain clear acoustical, tactical and operational superiority over submarine and surface combatants in all scenarios through detection, classification, localization and contact following. Current developments, detailed below, are focused on supporting Littoral Warfare, Regional Sea Denial, Battle Group Support, Diesel Submarine Detection, Surveillance, and Peacetime Engagement. Acoustics Rapid COTS Insertion (A-RCI) is a multi-phased, evolutionary development effort geared toward addressing Acoustic Superiority issues through the rapid introduction of interim development products applicable to SSN 688, 688I Flight, SSN21, SSGN and SSBN 726 Class Submarines. A-RCI Phases I and II introduce towed array processing improvements; A-RCI Phase III introduces spherical array processing improvements. The AN/BSY-1 High Frequency Upgrade is a stand-alone program which will be introduced as A-RCI Phase IV for SSN 688I and Seawolf Class only. As part of CNO N772's plan to maintain acoustic superiority for In-Service Submarines a joint cooperative effort with NAVSEA (SEA 93, ASTO) to deliver annual Advanced Processing Builds (APBs). The capabilities in the APBs will be integrated as part of A-RCI certified systems. This effort, known as the N772 Business Plan funds the APB integration efforts with the Multi-Purpose Processor as well as the AN/BQQ-10 Sonar system beginning in FY02. This project also funds development of the Total Ship Monitoring System, Active Intercept and Ranging as well as Acoustic Intelligence (ACINT 21) capabilities to be introduced into the Fleet. Precision Bottom Mapping transition, integration and testing began in FY01.

Towed system's development efforts provide increased operational capabilities and reliability improvements to maintain a clear acoustical, tactical, and operational superiority over submarine and surface combatants. These efforts include development of a Fiber Optic Thinline Towed Array, (TB-33) for increased reliability, and the Next Generation Fatline Towed Array and Hull Mounted array which provide improved Littoral Operational capability. Low Cost Conformal Array (LCCA) development provides enhanced situational awareness collision avoidance for backfit on 688, 688I, SEAWOLF, SSGN, and forward fit to VIRGINIA. The LCCA will provide enhanced capability against quiet targets. The Mission Tailored Towed Array (MTTA) is a variant of the TB-29A/FOTL array which will improve acoustic sensor performance in littoral and open ocean environments. The mission tailored TB-29A/FOTL array will be re-configurable in aperture and length based on the mission to be performed and will expand frequency coverage via a high frequency aperture(s).

AN/BSY-2 efforts are focused on ARCI-(V)5 development which implements ARCI Phases II-IV in the Seawolf Class submarines.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604503N/Submarine Systems Equipment Development	PROJECT NUMBER AND NAME 0219/Submarine Sonar Improvement																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>16.092</td> <td>12.975</td> <td>13.87</td> <td>13.849</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY04	FY 05	FY 06	FY07	Accomplishments/Effort/Subtotal Cost	16.092	12.975	13.87	13.849	RDT&E Articles Quantity				
	FY04	FY 05	FY 06	FY07															
Accomplishments/Effort/Subtotal Cost	16.092	12.975	13.87	13.849															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> APB Productionization Completed A-RCI OpEval in FY03. Received A-RCI MSIII decision authority in FY04. Continue Advanced Processing Build (APB) Sea Testing, Integration and Certification. This effort is primarily the transition of APB software from development to A-RCI for integration and test, and formal certification. APB sea tests sceduled for FY05. </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>29.447</td> <td>18.900</td> <td>28.81</td> <td>36.583</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY04	FY 05	FY 06	FY07	Accomplishments/Effort/Subtotal Cost	29.447	18.900	28.81	36.583	RDT&E Articles Quantity				
	FY04	FY 05	FY 06	FY07															
Accomplishments/Effort/Subtotal Cost	29.447	18.900	28.81	36.583															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> Integration and Testing. Awarded new contracts to Lockheed Martin and General Dynamics in FY04 for continued A-RCI and MPP development, integration and test. Continued Integration and testing to support the introduction of Advanced Processing Builds to be installed on SSN 688I, SSN 688, SSBN 730, SSN 21, and SSGN 726 and VA Class. </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td></td> <td>2.896</td> <td>0.900</td> <td></td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY04	FY 05	FY 06	FY07	Accomplishments/Effort/Subtotal Cost		2.896	0.900		RDT&E Articles Quantity				
	FY04	FY 05	FY 06	FY07															
Accomplishments/Effort/Subtotal Cost		2.896	0.900																
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"> BQS-15A EC20 Merges the BQS-15 EC-18 array with A-RCI processing displays. FY05 - fund the development, integration and testing associated with upgrading the existing outboard receiver, internal array components and Unit 6 Display Console. FY06 - Complete development, integration and testing of the BQS-15A EC-20. </div>																			

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604503N/Submarine Systems Equipment Development	PROJECT NUMBER AND NAME 0219/Submarine Sonar Improvement																	
B. Accomplishments/Planned Program (Cont.)																			
<table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td></td> <td></td> <td></td> <td>2.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 10px; min-height: 150px;"> <p>HF Precision Imaging Active Sonar Will begin development efforts for HF Precision Imaging Active Sonar in FY07.</p> </div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost				2.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost				2.000															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>5.278</td> <td>0.146</td> <td>0.300</td> <td></td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 10px; min-height: 100px;"> <p>The development of the Next Generation Fatline Towed Array provides improvement in littoral water operations and increased frequency coverage. Began development efforts for the Next Generation Fatline Towed Array in FY04. Continue development efforts in FY05. Conduct design readiness review , complete EDM integration and assembly efforts. Complete development and conduct early operational assessment in FY06.</p> </div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	5.278	0.146	0.300		RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	5.278	0.146	0.300																
RDT&E Articles Quantity																			
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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604503N/Submarine Systems Equipment Development	PROJECT NUMBER AND NAME 0219/Submarine Sonar Improvement		

B. Accomplishments/Planned Program (Cont.)

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	6.431	5.364	4.453	5.726
RDT&E Articles Quantity				

Affordable Towed Array Technology (ATAT) development provides more affordable and reliable thinline arrays using fiber optic technology.
 FY04 - Continue development of Affordable Towed Array Technology (ATAT, Fiber Optic Array, TB-33). Conduct PDR.
 FY05 - Continue ATAT development and conduct CDR.
 FY06 - Continue development of ATAT and begin EDM fabrication.
 FY07 - Continue development of ATAT, complete EDM fabrication and begin at sea operational assessment.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			6.000	4.000
RDT&E Articles Quantity				

Mission Tailorable Towed Array (MTTA) development provides mission dependent variant of thinline arrays to improve sensor performance in littoral environment while maintaining open ocean capability.
 Begin development of mission dependent variant of thinline arrays.
 FY07 - Continue development of mission dependent variant of thinline arrays.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	3.100			
RDT&E Articles Quantity				

Acoustic Intelligence (ACINT) development, integration, test and certification. This effort includes the development of an onboard acoustic analysis system. ACINT integration, test and certification will be completed, as well as system integration, test and certification with the A-RCI system.

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604503N/Submarine Systems Equipment Development	PROJECT NUMBER AND NAME 0219/Submarine Sonar Improvement		
B. Accomplishments/Planned Program (Cont.)				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost				11.185
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Low Cost Conformal Array (LCCA) development provides enhanced situational awareness collision avoidance. Transition advanced development of LCCA from ASTO. Begin EDM assembly. </div>				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: Febraury 2005																																																								
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<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 45%;"></th> <th style="text-align: right; width: 12.5%;">FY 2004</th> <th style="text-align: right; width: 12.5%;">FY 2005</th> <th style="text-align: right; width: 12.5%;">FY 2006</th> <th style="text-align: right; width: 12.5%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY05 President's Budget</td> <td style="text-align: right;">61.762</td> <td style="text-align: right;">40.705</td> <td style="text-align: right;">31.807</td> <td style="text-align: right;">46.31</td> </tr> <tr> <td>FY06 President's Budget</td> <td style="text-align: right;">60.348</td> <td style="text-align: right;">40.281</td> <td style="text-align: right;">54.333</td> <td style="text-align: right;">73.343</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-1.414</td> <td style="text-align: right; border-top: 1px solid black;">-0.424</td> <td style="text-align: right; border-top: 1px solid black;">22.526</td> <td style="text-align: right; border-top: 1px solid black;">27.033</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td>Execution Realignment</td> <td style="text-align: right;">-0.017</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Submarine Systems Equipment Development</td> <td style="text-align: right;">-0.136</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Undistributed congressional reductions</td> <td style="text-align: right;">-1.261</td> <td style="text-align: right;">-0.360</td> <td></td> <td></td> </tr> <tr> <td>Programmatic adjustment</td> <td></td> <td style="text-align: right;">-0.064</td> <td style="text-align: right;">22.526</td> <td style="text-align: right;">27.033</td> </tr> <tr> <td style="text-align: right; padding-right: 20px;">Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">-1.414</td> <td style="text-align: right; border-top: 1px solid black;">-0.424</td> <td style="text-align: right; border-top: 1px solid black;">22.526</td> <td style="text-align: right; border-top: 1px solid black;">27.033</td> </tr> </tbody> </table>						FY 2004	FY 2005	FY 2006	FY 2007	Funding:					FY05 President's Budget	61.762	40.705	31.807	46.31	FY06 President's Budget	60.348	40.281	54.333	73.343	Total Adjustments	-1.414	-0.424	22.526	27.033	Summary of Adjustments					Execution Realignment	-0.017				Submarine Systems Equipment Development	-0.136				Undistributed congressional reductions	-1.261	-0.360			Programmatic adjustment		-0.064	22.526	27.033	Subtotal	-1.414	-0.424	22.526	27.033
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<p>Schedule:</p> <p>The A-RCI and TB-29 TECHEVAL/OPEVAL completed in FY03. Both programs obtained approval to proceed with the FY04 Production Buys in the MDA (Milestone Decision Authority) Review held in October 2003. Milestone III authority for A-RCI was received in February 2004. FY04 and FY05 production options have been awarded.</p>																																																											
<p>Technical:</p> <p>Not applicable</p>																																																											

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EXHIBIT R-2a, RDT&E Project Justification								DATE:	
								February 2005	
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME			
RDT&E, N / BA-5			0604503N/Submarine Systems Equipment Development			0219/Submarine Sonar Improvements			

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
OPN BLI 214700 SSN Acoustics	205,953	185.013	184.843	238.481	273.785	238.09	244.821	256.311	Continuing	Continuing
OPN BLI 214705 SSN Acoustics Installation	58.567	44.01	42.071	33.168	51.026	54.802	45.637	49.17	Continuing	Continuing
Total	264.520	229.023	226.914	271.649	324.811	292.892	290.458	305.481		

E. ACQUISITION STRATEGY:

A-RCI utilizes an open architecture and Commercial Off-the-Shelf products in support of new and upgraded sonar systems. A follow-on development and production sole source cost plus award fee contract was awarded to Lockheed Martin Federal Systems and Digital System Resources in December 2003. Program Review with Milestone Decision Authority was conducted in October 2003 granting approval for the FY04 production option. MS III authority for A-RCI was received in February 2004. FY04 and FY05 production options have been awarded.

Towed Systems is the development of a highly reliable and more affordable Fiber Optic Thinline variant towed array which uses fiber optic sensor technology for data collection and moves all outboard electronics from the array to inboard the submarine where they can be easily maintained. Cost savings in array production will be gained by using automated production techniques and significantly reducing or eliminating the "hand touch" labor common to today 's towed array production methods because of the number of different electronics that must be wired together to achieve the acoustics capabilities necessary to meet today's and tomorrow threats. This development is being accomplished under a Phase III SBIR. In FY04 Towed Systems awarded two competitive contracts for the development of a Fatline Towed Array which will provide better littoral operations and ranging. Development efforts are currentlu on-going and will complete in FY06. The Low Cost Conformal Array (LCCA) will transition from ASTO in FY07 with a competitive contract being awarded for the EDM development.

F. MAJOR PERFORMERS:

Lockheed Martin Corporation, Naval Electronics and Surveillance Systems-Undersea Systems; Manassas, Virginia - Provides primary hardware development, software integration and systems engineering support for Advanced Processor Builds for SSN 688, 688 I, 21 and Virginia Class submarine sonar systems. Contract awards projected for October each fiscal year.

Digital System Resources, Inc; Fairfax, Virginia - Provides primary software development for SSN688, 688I, 21 and Virginia Class submarine sonar systems. Contract awards projected for October each fiscal year.

R-1 SHOPPING LIST - Item No. 108

UNCLASSIFIED

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604503N/Submarine Systems Equipment Development	PROJECT NUMBER AND NAME 0219/Submarine Sonar Improvements
<p>F. Major Performers (cont'd)</p> <p>Naval Undersea Warfare Center, Newport, Rhode Island - Provides systems engineering support for SSN688, 688I, 21 and Virginia Class submarine sonar systems. Work Requests to be issued October each fiscal year.</p> <p>Chesapeake Science Corporation, Millersville, Maryland: Provides primary hardware development, software integration and systems engineering support for the Affordable Towed Array Technology Initiatives. Contract awards projected for October each fiscal year.</p>		

R-1 SHOPPING LIST - Item No. 108

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)							DATE:							
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-5			0604503N/Submarine Systems Equipment Development			0219/Submarine Sonar Improvement								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY04 Cost	FY04 Award Date	FY05 Cost	FY05 Award Date	FY06 Cost	FY06 Award Date	FY07 Cost	FY07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Various	Lockheed Martin (Omnibus)	14.187										14.187	
Primary Hardware Development	Various	Chesapeake Sciences	15.074	7.850	10/03	2.553	10/04	3.284	10/05	4.399	10/6		33.160	
Primary Hardware Development	SS/CPAF	LMC, Manassas, VA	128.677	9.536	10/03	13.382	11/04	21.634	11/05	32.622	11/06		205.851	
Ancillary Hardware Development	SS/CP	ARL University of Texas	2.738	2.602	10/03	2.402	12/04	3.600	12/05	3.6	12/06		14.942	
		Newport News		0.060	2/04	0.044	1/05	0.037	1/06	.048	1/07		0.189	
Systems Engineering	WX	NUWC, Newport R.I.	95.270	4.931	10/03	4.876	10/04	5.201	10/05	6.253	10/06		116.531	
Systems Engineering	SS/CPAF	LMC, Syracuse N.Y.	5.763	2.433	9/04	1.173	10/04	2.800	10/05	3.000	10/06		15.169	
Systems Engineering	Various	Various	12.220	0.565	10/03	0.200	10/04	0.087	10/05	.100	10/06		13.172	
Software Development	SS/CP	Progeny Systems	4.981	2.118	10/03	2.900	11/04	2.200	11/05	2.800	11/06		14.999	
Systems Engineering	WX	NSWC, Carderock MD	3.146	1.445	10/03	1.100	10/04	1.445	10/05	2.166	10/06		9.302	
Systems Engineering	SS/CP	John Hopkins APL	3.051	3.780	10/03	3.700	2/05	3.600	12/05	3.78	12/06		17.911	
Hardware/Software Development	Various	SBIR's	1.303	0.150	10/03	0.100	2/05	0.075	12/05	.075	12/06		1.703	
Award Fees	SS/CPAF	LMC, Syracuse N.Y.	0.495										0.495	
Miscellaneous	Various	Various	9.402										9.402	
Systems Engineering	WX	NSWC, Crane, IN	0.076	0.078	10/03	0.235	10/04	0.080	10/05	.873	10/06		1.342	
Hardware/Software Development													0.000	
Systems Engineering	WX	Naval Research Lab (NRL)	0.390	0.315	10/03	0.233	10/04	0.199	10/05	.256	10/06		1.393	
													0.000	
													0.000	
Subtotal Product Development			296.773	35.863		32.898		44.242		59.972		0.000	409.776	
Remarks:														

R-1 SHOPPING LIST - Item No. 108

UNCLASSIFIED

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)							DATE:							
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-5			0604503N/Submarine Systems Equipment Development			0219/Submarine Sonar Improvement								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY04 Cost	FY04 Award Date	FY05 Cost	FY05 Award Date	FY06 Cost	FY06 Award Date	FY07 Cost	FY07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Ancillary Software Development	TBD	TBD											0.000	
Primary Software Development	SS/CPAF	Digital Systems Resources	106.248	23.142	12/03	5.965	11/04	8.478	11/05	12.043	11/06		155.876	
Integrated Logistics Support													0.000	
Configuration Management													0.000	
Technical Data													0.000	
Studies & Analyses													0.000	
GFE													0.000	
Award Fees													0.000	
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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 19 of 52)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604503N/Submarine Systems Equipment Development			PROJECT NUMBER AND NAME 0219/Submarine Sonar Improvement								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY04 Cost	FY04 Award Date	FY05 Cost	FY05 Award Date	FY06 Cost	FY06 Award Date	FY07 Cost	FY07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation													0.000	
Operational Test & Evaluation	WX	OPTEVFOR	1.051	0.368	10/03	0.468	10/04	0.663	10/05	.368	10/06		2.918	
Developmental/Operational T&E	Various	Various	6.118										6.118	
Test Assets													0.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal T&E			7.169	0.368		0.468		0.663		.368		0.000	9.036	
Remarks:														
Contractor Engineering Support													0.000	
Management Support Services	Various	Various	3.514	0.675	11/03	0.675	11/04	0.675	11/05	.675	11/06		5.539	
Program Management Support	SS/CP	Mitre	0.523		11/03		11/04		11/05		11/06		0.523	
Travel	PD	NAVSEA	0.175	0.300	11/03	0.275	11/04	0.275	11/05	.285	11/06		1.025	
Transportation													0.000	
SBIR Assessment													0.000	
Subtotal Management			4.212	0.975		0.950		0.950		.960		0.000	7.087	
Remarks:														
Total Cost			414.402	60.348		40.281		54.333		73.343		0.000	515.031	
Remarks:														

R-1 SHOPPING LIST - Item No. 108

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:											
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-5												0604503N/Submarine Systems Equipment Development												0219/Submarine Sonar Improvement											
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4							
Acquisition Milestones				Annual MDA Program Review			Annual MDA Program Review		MS III			Annual MDA Program Review			Annual MDA Program Review			Annual MDA Program Review			Annual MDA Program Review			Annual MDA Program Review			Annual MDA Program Review								
A-RCI & HF Upgrade Dev. A-RCI-(V)5 Development		Development completed in FY01																																	
SSGN Development																																			
APB I&T, Certification																																			
Tech Insertion Development, I&T, Certification																																			
Test & Evaluation Milestones																																			
Phase III Operational Test																																			
Phase IV Operational Test																																			
APB Test Readiness Reviews																																			
APB Sea Tests																																			
Production																																			
FY02																																			
FY03																																			
FY04																																			
FY05																																			
FY06																																			
FY07																																			
FY08																																			

R-1 SHOPPING LIST - Item No. 108

* Not required for Budget Activities 1, 2, 3, and 6

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CLASSIFICATION:

[illegible]

R-1 SHOPPING LIST - Item No. 108

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Exhibit R-2, RD TEN Budget Item Justification

(Exhibit R-2, page 22 of 52)

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
Next Generation Fatline Development																								Febraury 2005								
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME												
RDT&E, N / BA-5										0604503N: SSN-688 and Trident Modernization										0219: Submarine Sonar Improvement												
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones																																
Next Generation Fatline Development																																
Production Representative Delivery																																
Test & Evaluation Milestones																																
Lake Test																																
Operational Test																																
Procurement Production Contract																																
Deliveries																																

R-1 SHOPPING LIST - Item No. 108

* Not required for Budget Activities 1, 2, 3, and 6

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CLASSIFICATION:

[illegible]

R-1 Shopping List ITEM NO. 108

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 24 of 52)

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
Thinline Fiber Optic Array												February 2005																				
APPROPRIATION/BUDGET ACTIVITY								PROGRAM ELEMENT NUMBER AND NAME								PROJECT NUMBER AND NAME																
RDT&E, N / BA-5								0604503N: SSN-688 and Trident Modernization								0219: Submarine Sonar Improvement																
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones																																
Thinline Fiber Optic Array System Design																																
Detailed Design																																
EDM Fabrication																																
Test & Evaluation Milestones																																
Operational Test																																
Procurement Production Contract																																
Deliveries																																

R-1 SHOPPING LIST - Item No. 108

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[illegible]

R-1 SHOPPING LIST - Item No. 108

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Exhibit R-2, RD TEN Budget Item Justification

(Exhibit R-2, page 26 of 52)

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CLASSIFICATION:

[illegible]

R-1 SHOPPING LIST - Item No. 108

* Not required for Budget Activities 1, 2, 3, and 6

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CLASSIFICATION:

[illegible]

R-1 SHOPPING LIST - Item No. 108

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Exhibit R-2, RD TEN Budget Item Justification

(Exhibit R-2, page 28 of 52)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME PE 0604503N Title: SSN 688 & Trident Modernization			PROJECT NUMBER AND NAME 0742 Submarine Integrated Antenna S				
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost Project Cost		7.186	25.274	24.972	18.492	31.913	41.599	27.689	25.289
RDT&E Articles Qty									

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Submarine Integrated Antenna System (SIAS) project (X0742) provides for the development and testing of submarine antennas designed to meet emerging submarine communications requirements of: (a) Improved frequency coverage and data rate capabilities of submarine antennas and their interface to the External Communications System (ECS), (b) Improved submarine antenna performance and data rate while the submarine is operating at speed and depth, (c) Antenna compatibility with new waveforms and receiver equipment, (d) Improved stealth capability of existing and future antennas and (e) Improved antenna design to reduce Total Ownership Cost. This project funds research and development for submarine antennas including (1) P3I efforts to existing antennas including OE-538/BRC Multi-Function Antenna improved UHF (iUHF) gain, RFDACS efforts and the OE-562 Submarine High Data Rate (SubHDR) system development of X-band and (SHF) K-band capabilities, (2) Development of new antenna systems including Advanced High Data Rate Antenna (AdvHDR) and (3) Communication at Speed and Depth design efforts. These efforts will provide SSN, SSBN and SSGN platforms with an improved communications capability while operating at speed and depth thus enhancing operational flexibility and maintaining stealth in Littoral mission applications.

U) JUSTIFICATION FOR BUDGET ACTIVITY:

This program is funded under ENGINEERING AND MANUFACTURING DEVELOPMENT because it encompasses engineering and manufacturing development of new end-items prior to production approval decision.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME 0604503N SSN 688 & Trident Modernization	PROJECT NUMBER AND NAME 0742 Submarine Integrated Antenna System																	
(U) B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Advanced HDR/SubHDR P-3I</td> <td style="text-align: center;">2.612</td> <td style="text-align: center;">14.968</td> <td style="text-align: center;">15.032</td> <td style="text-align: center;">8.064</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 04	FY 05	FY 06	FY 07	Advanced HDR/SubHDR P-3I	2.612	14.968	15.032	8.064	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Advanced HDR/SubHDR P-3I	2.612	14.968	15.032	8.064															
RDT&E Articles Quantity																			
<p>FY04: Completed the digital navigation interface development for the SubHDR system (\$1.717). Commenced design development for SCA compliant SHF modification to Extremely High Frequency (EHF) Medium Data Rate (MDR)/Low Data Rate (LDR) and Follow-on Terminal (FOT) for joint US/UK initiative (\$.733). Provided FOT&E testing and support EMP testing completion (\$.162). FY05: Continue development of SHF FOT to accommodate SHF capability and meet the high priority fleet requirement to provide a secondary global IP connectivity. Develop prototype unit, initial logistics development and testing requirements. (\$11.509) Begin FOT modification development for simultaneous GBS and EHF functionality (GBS Open Loop Point Mod and APU Power Supply Upgrade). (\$3.459) FY06: Continue FOT modification development for SHF functionality and SCA compliance (\$14.633) Commence program planning and generation of acquisition documentation for AdvHDR (\$.399) FY07: Complete SHF FOT development/test and SCA compliance (\$1.258). Commence APU Power Supply Upgrade and Mast Flood Protection P3I for SubHDR (\$1.842). Commence development of systems engineering, detailed specification documentation, and the Engineering Development Model (EDM) antenna mast assembly, source selection, award of contract and conduct risk reduction and technology insertion investigations.for AdvHDR \$4.964).</p>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Comms at Speed and Depth</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">5.242</td> <td style="text-align: center;">4.532</td> <td style="text-align: center;">4.870</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 04	FY 05	FY 06	FY 07	Comms at Speed and Depth	0.000	5.242	4.532	4.870	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Comms at Speed and Depth	0.000	5.242	4.532	4.870															
RDT&E Articles Quantity																			
<p>FY05: Perform Analysis of Alternatives, technical risk reduction studies, and initiate systems engineering, environmental impact analysis, and generation of acquisition documentation for Comms at Speed and Depth systems. Commence development of Expendable Buoy (Increment I.)(\$.3.242). Initiate technical development of interface, requirements, installation, and environmental test plan documentation package to enable installation of the US/UK Recoverable Tethered Fibre Optic (RTOF) (\$2.000). FY06: Continue technology development of Expendable Buoy. Complete the acquisition documentation and processes required to obtain MS B approval. Award contract for development of Expendable Buoy Engineering Development Model (EDM). Commence EDM development (\$2.121)). Complete technical development of documentation package for RTOF submarine installation. Award contract for RTOF installation aboard US Navy submarine and initiate development of installation plan (\$2.411). FY07: Execute sea developmental testing and sea trials for Increment I. Generate aquisition documentation and award contract for Increment II system (\$3.352). Install RTOF system aboard OHIO Class submarine, provide technical oversight to sea test, remove RTOF system, and restore original capability to submarine (\$1.518).</p>																			

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																															
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME 0604503N SSN 688 & Trident Modernization	PROJECT NUMBER AND NAME 0742 Submarine Integrated Antenna System																																
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<table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Antenna Transition Engineering</td> <td style="text-align: center;">4.574</td> <td style="text-align: center;">5.064</td> <td style="text-align: center;">5.408</td> <td style="text-align: center;">5.558</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 10px; margin-bottom: 10px;"> <p>FY04: Continued to provide emerging requirements and Satellite Communications Database/Link analysis for other development programs including (i.e. PCS/MCSSS Commercial, WGS/AWS, Advanced EHF, and Wideband Commercial) (\$0.858). Continued P3I investigations and development efforts for legacy antenna systems (\$0.949). Continued concept engineering efforts, new technology evaluations and assessments in support of current and future submarine antenna applications (\$1.357). Commenced research engineering and hardware development leading to proof of concept demonstration for expendable buoy (\$1.410). FY05: Continue to provide emerging requirements and Satellite communications Database/Link analysis for other development programs (i.e. PCS/MCSSS Commercial, WGS/AWS, Advanced EHF, and Wideband Commercial (\$1.040). Continue P3I investigations and development efforts for legacy antenna systems (\$1.726). Continue concept engineering, new technology evaluations and assessments in support of current and future submarine antenna applications (\$2.298). FY06: Continue to provide emerging requirements and Satellite communications Database/Link analysis for other development programs (i.e. MUOS/ANS, PCS/MCSSS Commercial, WGS/AWS, Advanced EHF, and Wideband Commercial (\$1.439). Continue P3I investigations and development efforts for legacy antenna systems (\$1.326). Continue concept engineering, new technology evaluations and assessments in support of current and future submarine antenna applications (\$2.643) FY07: Continue to provide emerging requirements and Satellite communications Database/Link analysis for other development programs (i.e. MUOS/ANS, PCS/MCSSS Commercial, WGS/AWS, Advanced EHF, and Wideband Commercial (\$1.138). Continue P3I investigations and development efforts for legacy antenna systems (\$1.726). Continue concept engineering, new technology evaluations and assessments in support of current and future submarine antenna applications (\$2.694)</p> </div> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; height: 80px; margin-top: 10px;"></div>						FY 04	FY 05	FY 06	FY 07	Antenna Transition Engineering	4.574	5.064	5.408	5.558	RDT&E Articles Quantity						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07																														
Antenna Transition Engineering	4.574	5.064	5.408	5.558																														
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	FY 04	FY 05	FY 06	FY 07																														
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000																														
RDT&E Articles Quantity																																		

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
			February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N / BA 5	0604503N SSN 688 & Trident Modernization	0742 Submarine Integrated Antenna System		
(U) C. PROGRAM CHANGE SUMMARY:				
(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY05 President's Budget	7.313	25.557	32.335	25.649
FY06 President's Budget	7.186	25.274	24.972	18.492
Total Adjustments	-0.127	-0.283	-7.363	-7.157
Summary of Adjustments				
Programmatic adjustments	-0.082	-0.256	-7.363	-7.157
Undistributed congressional reductions	-0.045	-0.027		
Subtotal	-0.127	-0.283	-7.363	-7.157
(U) Schedule:				
SubHDR FOT/SHF IOC rephased from 2nd qtr FY06 to 4th qtr FY07.				
K-band no longer applicable to SubHDR due to antenna development being ahead of requirement for UAV connectivity.				
Comms at Speed and Depth MS-B moved to FY 2006 2Q following Analysis of Alternatives planned in FY 2005.				
(U) Technical:				
Not Applicable				

R-1 SHOPPING LIST - Item No. 108

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604503N SSN 688 & Trident Modernization			PROJECT NUMBER AND NAME 0742 Submarine Integrated Antenna System				
(U) D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	To <u>Complete</u>	Total <u>Cost</u>
3130 Submarine Communications	80.234	98.927	127.409	88.725	85.482	79.755	120.235	159.456	Continue	Continue
Related RDT&E: PE 0602232N Space and Electronic Warfare (SEW) Technology PE 0303109N Satellite Communications - Provides for the EHF transmitter and receiver that utilized the antenna developed under this program.										
(U) E. ACQUISITION STRATEGY: *										
Program Milestones: FY 2006 2Q Comms at Speed and Depth MS-B; FY2007 1Q Adv HDR MS-B T&E Milestones: Contract Milestones:										
* Not required for Budget Activities 1,2,3, and 6										

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)

DATE:

February 2005

APPROPRIATION/BUDGET ACTIVITY

PROGRAM ELEMENT

PROJECT NUMBER AND NAME

RDT&E, N / BA-5

0604503N SSN 688 & Trident Modernization

0742 Submarine Integrated Antenna System

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Digital Interface Dev (HDR)	CPAF	Raytheon, Marlboro, MA	3.545								3.545	3.545
Hardware Dev (HDR/Adv HDR)	WX	NUWC, Newport, RI	7.674			1.411					0.000	0.000
Hardware Dev (HDR SHF/FOT)	TBD	Raytheon, Marlboro, MA	1.717	9.777	TBD	4.300	TBD	1.069	TBD		16.863	16.863
Hardware Dev (Trans Eng)	CPAF	Sippican Marion, MA	1.410								1.410	1.410
Systems Engineering (Comms)	TBD	TBD		1.705		3.669		4.514				
Systems Engineering (HDR/AdvHDR)	TBD	TBD				5.395		1.846				
System Engineering (HDR/AdvHDR)	WX	NUWC, Newport, RI	6.215	4.150		1.261		3.307			14.933	0.000
System Engineering (Trans Eng)	WX	NUWC, Newport, RI	4.731	5.052		4.631		4.192			18.606	
Systems Engineering (Comms)	WX	NUWC, Newport, RI		2.805		2.896		2.285			7.986	0.000
Subtotal Product Development			25.292	23.489		23.563		17.213		0.000	89.557	0.000

Remarks:

Development Support											0.000	0.000
Software Development	WX	NUWC, Newport, RI	0.739								0.739	0.000
Training Development											0.000	0.000
Integrated Logistics Support	Various	Various	0.530	0.599		0.438		0.441			2.008	0.000
Configuration Management											0.000	0.000
Technical Data											0.000	0.000
GFE											0.000	0.000
Subtotal Support			1.269	0.599		0.438		0.441		0.000	2.747	0.000

Remarks:

R-1 SHOPPING LIST - Item No. 108

UNCLASSIFIED

Exhibit R-2, RD TEN Budget Item Justification

(Exhibit R-2, page 34 of 52)

UNCLASSIFIED

CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604503N SSN 688 & Trident Modernization				PROJECT NUMBER AND NAME 0742 Submarine Integrated Antenna System					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	0.000
Operational Test & Evaluation											0.000	0.000
Developmental/Operational T&E	Various	Various	1.167	0.100							1.267	0.000
Test Assets											0.000	0.000
Tooling											0.000	0.000
GFE											0.000	0.000
Subtotal T&E			1.167	0.100		0.000		0.000		0.000	1.267	0.000
Remarks:												
Contractor Engineering Support											0.000	0.000
Government Engineering Support											0.000	0.000
Program Management Support	Various	Various	1.595	1.086		0.971		0.838			4.490	0.000
Travel											0.000	0.000
Subtotal Management			1.595	1.086		0.971		0.838		0.000	4.490	0.000
Remarks:												
Total Cost			29.323	25.274		24.972		18.492		0.000	98.061	0.000
Remarks:												

R-1 SHOPPING LIST - Item No. 108

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																DATE: February 2005																
APPROPRIATION/BUDGET A PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME																				
RDT&E, N /				PE: 0604503N TITLE: SSN 688 & TRIDENT MODERNIZATION												X0742 Submarine Integrated Antenna System																
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition (SubHDR) Milestones																																
Prototype Phase																																
System Development																																
EDM Delivery																																
Software Delivery																																
Test & Evaluation Milestones																																
Development Test																																
Technical Evaluation																																
Operational Evaluation																																
Production Milestones																																
Full Rate Production Start-up (ECP drawer)																																
Full Rate Production Delivery																																
Low-Rate Initial Production (LRIP) Start-up																																
Low-Rate Initial Production (LRIP) Delivery																																

R-1 SHOPPING LIST - Item No. 108

* Not required for Budget Activities 1, 2, 3, and 6

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT& BA-5	PROGRAM ELEMENT PE: 0604503N TITLE: SSN 688 & TRIDENT MODERNIZATION				PROJECT NUMBER AND NAME X0742 Submarine Integrated Antenna System			
Schedule Profile (SubHDR)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
FOT/SHF Critical Design Review (CDR)		3Q						
FOT/SHF Eng Dev Model (EDM)			3Q					
FOT/SHF Developmental Testing (DT)			3Q-	4Q				
FOT/SHF Technical Evaluation (TECHEVAL)				3Q				
FOT/SHF Operational Evaluation (OPEVAL)				4Q				
FOT/SHF Software Delivery			3Q					
FOT/SHF Preproduction Readiness Review (PRR)			2Q					
FOT/SHF Low Rate Production (LRIP) Start-up			2Q					
FOT/SHF Low Rate Production (LRIP) delivery				2Q				
FOT/SHF Full Rate Production (FRP) Start-up					1Q			
FOT/SHF Full Rate Production (FRP) First Delivery						1Q		
FOT/SHF IOC				4Q				

R-1 SHOPPING LIST - Item No. 108

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																DATE: February 2005																
APPROPRIATION/BUDGET /PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME																				
RDT&E, N / BA5				PE: 0604305N TITLE: SSN 688 & TRIDENT MODERNIZATION												X0742 Submarine Integrated Antenna System																
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition (Comms) Milestones																																
Technology Development & Requirements																																
System Development Increment I																																
Engineering Dev. Model Increment I																																
Deliveries																																
System Development Increment II																																
Engineering Dev. Model Increment II																																
Deliveries																																
DT/OT Increment I																																
DT/OT Increment II																																
Production Milestones																																
LRIP																																
Deliveries																																
RTOF Tech Demo (US/UK)																																

MS B

MS C (I)

MS C (II)

DRR (I)

MS C (I)

IOC (I)

MS C (II)

CDD (II)

CPD (I)

CPD (II)

CDR

EDM DEVELOPMENT (I)

Lab 1

Lab 2

SDR

PDR

CDR

EDM DEVELOPMENT (II)

Lab 1

Lab 2

TRR

DT-IIA

DT-IIB

OT-IIA

TRR

DT-IIA

DT-IIB

OT-IIA

LRIP Start (I)

LRIP (I): QTY 5

FRP (I)

LRIP Start (II)

LRIP (II): QTY 1

SEA TEST PLANNING & ENGINEERING

INSTALL, TEST, & RESTORE SSBN SUBMARINE

(5)

R-1 SHOPPING LIST - Item No. 108

* Not required for Budget Activities 1, 2, 3, and 6

UNCLASSIFIED

Exhibit R-2, RDTEB Budget Item Justification
(Exhibit R-2, page 38 of 52)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:			
						February 2005			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E, N / BA5		PE: 0604305N TITLE: SSN 688 & TRIDENT MODERNIZATION				X0742 Submarine Integrated Antenna System			
Schedule Profile (Comms)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
Technology Development	1Q--	1Q--	2Q						
Approval of Initial Capability Document (ICD)		1Q--							
RTOF Test Planning & Engineering		1Q--	1Q--						
Analysis of Alternatives		2Q-	1Q						
Approval of Capability Development Document (CDD)			2Q						
Milestone B Decision (MS B)			2Q						
EDM Development for Increment I			2Q--	1Q--					
RTOF Install, Test, & Restore				1Q-4Q					
System Design Review (SDR) for Increment I			3Q						
Preliminary Design Review (PDR) for Increment I			4Q						
Critical Design Review (CDR) for Increment I				4Q					
Approval of CDD for Increment II				4Q					
Design Readiness Review (DRR) for Increment I					1Q				
EDM Development for Increment II					1Q--	1Q--	1Q--	1Q	
Test Readiness Review (TRR) for Increment I					1Q				
System Design Review (SDR) for Increment II					1Q				
Eng Dev Model (EDM) - Lab 1 Delivery for Increment I					2Q				
Development Test DT-IIA for Increment I					2Q-3Q				
Preliminary Design Review (PDR) for Increment II					3Q				
Eng Dev Model (EDM) - Lab 2 Delivery for Increment I					4Q				
Development Test DT-IIB for Increment I					4Q				
Approval of Capability Production Document (CPD) (Inc. I)					4Q				
Milestone C (MS C) Decision for Increment I					4Q				
Low-Rate Initial Production (LRIP) for Increment I						1Q-2Q			
Operational Testing (OT-IIA) for Increment I						3Q			
Critical Design Review (CDR) for Increment II						3Q			
Initial Operational Capability (IOC) for Increment I						4Q			
Full Rate Production Decision for Increment I							1Q		
Test Readiness Review (TRR) for Increment II							1Q		
Development Test DT-IIA for Increment II							2Q-3Q		
Eng Dev Model (EDM) - Lab 1 Delivery for Increment II							3Q		
Development Test DT-IIB for Increment II							4Q		
Eng Dev Model (EDM) - Lab 2 Delivery for Increment II								1Q	
Approval of CPD for Increment II								1Q	
Milestone C (MS C) Decision for Increment II								2Q	
Low-Rate Initial Production (LRIP) for Increment II								2Q-4Q	
Operational Testing (OT-IIA) for Increment II								4Q	

R-1 SHOPPING LIST - Item No. 108

UNCLASSIFIED

Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 40 of 52)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																	DATE: February 2005																				
APPROPRIATION/BUDGET / PROGRAM ELEMENT NUMBER AND NAME RDT&E, N / BA5 PE: 0604305N TITLE: SSN 688 & TRIDENT MODERNIZATION																	PROJECT NUMBER AND NAME X0742 Submarine Integrated Antenna System																				
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011								
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4					
Acquisition (AdvHDR) Milestones									ACQUISITION PLANNING & DOCUMENTATION				MS B △									DRR △												MS C △			
Requirements																																				CPD △	
System Development																	SDR △		PDR △						CDR △												
Engineering Dev. Model																	EDM DEVELOPMENT																				
Deliveries													SOURCE SELECTION													Lab 1 △				Lab 2 △				Lab 3 △			
Development Test																									TRR △	DT-IIA □				DT-IIB □				DT-IIC □			

R-1 SHOPPING LIST - Item No.108

* Not required for Budget Activities 1, 2, 3, and 6

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME				
RDT&E, N / BA5	PE: 0604305N TITLE: SSN 688 & TRIDENT MODERNIZATION				X0742 Submarine Integrated Antenna System				
Schedule Profile (AdvHDR)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
Approval of Initial Capability Document (ICD)		4Q							
Acquisition Planning & Documentation			1Q-4Q						
Approval of Capability Development Document (CDD)				1Q					
Milestone B Decision (MS B)				1Q					
Source Selection				1Q-3Q					
Engineering Development Model Development				3Q--	1Q--	1Q--	1Q--	1Q--	
System Design Review (SDR)				4Q					
Preliminary Design Review (PDR)					2Q				
Critical Design Review (CDR)						1Q			
Design Readiness Review (DRR)						2Q			
Test Readiness Review (TRR)						3Q			
Eng Dev Model (EDM) - Lab 1 Delivery						3Q			
Development Test DT-IIA						3Q-4Q			
Eng Dev Model (EDM) - Lab 2 Delivery							2Q		
Development Test DT-IIB							2Q-3Q		
Eng Dev Model (EDM) - Lab 3 Delivery								2Q	
Development Test DT-IIC								2Q-3Q	
Approval of Capability Production Document (CPD)								3Q	
Milestone C (MS C) Decision								4Q	

R-1 SHOPPING LIST - Item No. 108

UNCLASSIFIED

Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 42 of 52)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE: February 2005											
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA5												PE: 0604503N TITLE: SSN 688 & TRIDENT MODERNIZATION												X1411 Submarine Tactical Communications System											
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4							
Acquisition (CSRR) Milestones															MS C △			IOC ☆	☆		First Deployment △														
Prototype Phase																																			
Software System Development																FAT △△																			
Q-70 Delivery																																			
Software Interim Delivery #1 Fleet SW Delivery													ITF ▲																						
Test & Evaluation Milestones																																			
Development Test																																			
Operational Test																																			
Production Milestones																																			
LRIP																																			
FRP																																			
Deliveries																																			

R-1 SHOPPING LIST - Item No. 108

* Not required for Budget Activities 1, 2, 3, and 6

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME PE 0604503N Title: SSN 688 & Trident Modernization			PROJECT NUMBER AND NAME 1411 Submarine Tactical Communicat				
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	Project Cost	11.857	7.573	14.789	17.982	17.792	15.695	11.123	10.725
RDT&E Articles Qty									

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Submarine Tactical Communications System project (X1411) provides submarines with communications systems designed to: (a) enhance data throughput through automation and integrated network management; (b) copy tactical data networks, (c) provide submarines IP connectivity; (d) be interoperable with other U.S. and allied military networks; and (e) improve reliability, maintainability, and availability. This is accomplished by providing the submarine with a properly integrated mix of Navy standard and commercial off-the-shelf communication equipment covering a wide range of frequencies and modes. The Common Submarine Radio Room (CSRR) integrates COTS and GOTS components into a single radio room configuration for all classes of submarines. CSRR will leverage the development of VIRGINIA Class Exterior Communications System (ECS) which includes Open Systems Architecture (OSA) and install the VIRGINIA based ECS architecture on all classes of submarines. In support of the CSRR, funding is provided to expedite the Navy standard Multi-functional Crypto System (MCS) to meet CSRR need dates. The project provides for the development of a single Land-Based Integration and Test Facility that will consolidate existing Land -Based Testing Facilities into one facility that will support all classes of submarines. This project funds the development of a replacement of the Multi-Link Transmit Simulator (MLTS) to support future testing and training requirements. The project includes system engineering efforts associated with demonstration of new technology which will allow the submarine to participate in battle group and joint operations. The new technology will increase the submarine's communications, command, and control capability and interoperability with the rest of the Navy and exploit its stealth capabilities for battlefield dominance.

U) JUSTIFICATION FOR BUDGET ACTIVITY:

This program is funded under SYSTEMS DEVELOPMENT and DEMONSTRATION because it encompasses development and demonstration of new end-items prior to production approval decision.

R-1 SHOPPING LIST - Item No. 108

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604503N SSN 688 & TRIDENT MODERNIZATION	PROJECT NUMBER AND NAME 1411 Submarine Tactical Communications System																	
(U) B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Common Submarine Radio Room (CSRR)/</td> <td style="width: 15%;">FY04</td> <td style="width: 15%;">FY05</td> <td style="width: 15%;">FY06</td> <td style="width: 15%;">FY07</td> </tr> <tr> <td>Submarine Communications Support System (SCSS)</td> <td>5.852</td> <td>6.754</td> <td>13.946</td> <td>17.155</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>FY04: Modified OHIO Class Control & Management software development to include Extremely High Frequency (EHF) Follow-on Terminal (FOT) interface, router update for obsolescence, and update of associated documentation. (\$1.235) Continued CSRR integration and test in support of OHIO class submarines. (\$4.190) Continued INFOSEC certification of OHIO Class CSRR. (\$427) FY05: Perform system engineering/design development for 688 Class SCSS modernization (\$351). Complete CSRR integration and test support for OHIO class submarines (\$4.943). Continue INFOSEC certification of all classes CSRR and commence IA recertification of legacy 688 class radio rooms (\$760) Commence ECP development supporting Integration Test Facility (\$700). FY06: Continue system engineering/design development for 688 SCSS modernization (\$300). Commence system engineering and development of Multi Purpose Reconfigurable Training System (MRTS) (\$3.238). Continue Information Assurance (IA) and continue INFOSEC certification of all classes CSRR and continue IA recertification of legacy 688 class radio rooms (\$776) Commence system engineering, design development testing, software design development supporting CSRR modernization (\$9.632) FY07: Continue system engineering/design development for 688 SCSS modernization (\$306). Continue Information Assurance (IA) and continue INFOSEC certification of all classes CSRR and continue IA recertification of legacy 688 class radio rooms (\$792) Continue system engineering, test plan design development, software development, Integrated Logistics product development and curricula development for CSRR modernization (\$6.647). Commence design/integration engineering, development testing, Follow-on Test and Evaluation support, software development and Subschool curricula development in support of unique 688 class CSRR requirements (\$7.740). Commence unique 688 class software development (\$1.670).</p> </div>					Common Submarine Radio Room (CSRR)/	FY04	FY05	FY06	FY07	Submarine Communications Support System (SCSS)	5.852	6.754	13.946	17.155	RDT&E Articles Quantity				
Common Submarine Radio Room (CSRR)/	FY04	FY05	FY06	FY07															
Submarine Communications Support System (SCSS)	5.852	6.754	13.946	17.155															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY04</td> <td style="width: 15%;">FY05</td> <td style="width: 15%;">FY06</td> <td style="width: 15%;">FY07</td> </tr> <tr> <td>BCA OPCODE architecture</td> <td>0.856</td> <td>0.819</td> <td>0.843</td> <td>0.827</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>FY04 Accomplishments: Commenced system engineering supporting BCA/OPCON architecture (\$856). FY05: Continue system engineering supporting BCA/OPCON architecture (\$819). FY06: Continue system engineering supporting BCA/OPCON architecture (\$843). FY07: Continue system engineering supporting BCA/OPCON architecture (\$827).</p> </div>						FY04	FY05	FY06	FY07	BCA OPCODE architecture	0.856	0.819	0.843	0.827	RDT&E Articles Quantity				
	FY04	FY05	FY06	FY07															
BCA OPCODE architecture	0.856	0.819	0.843	0.827															
RDT&E Articles Quantity																			

R-1 SHOPPING LIST - Item No. 108

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: January 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604503N SSN 688 & TRIDENT MODERNIZATION	PROJECT NUMBER AND NAME 1411 Submarine Tactical Communications System																	
(U) B. Accomplishments/Planned Program <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY07</th> </tr> <tr> <td>Multi-functional Crypto System (MCS)</td> <td style="text-align: center;">5.149</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>FY04 Accomplishments: Preliminary Cert 2 (R2.0) released for testing of KWR-46 features. Released Final Cert 2 (R2.1) with software corrections and additional KG-84A mode for testing. (\$5.149K)</p> </div>						FY 04	FY 05	FY 06	FY07	Multi-functional Crypto System (MCS)	5.149	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY07															
Multi-functional Crypto System (MCS)	5.149	0.000	0.000	0.000															
RDT&E Articles Quantity																			

R-1 SHOPPING LIST - Item No. 108

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																														
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604503N SSN 688 & TRIDENT MODERNIZATION	PROJECT NUMBER AND NAME 1411 Submarine Tactical Communications System																																															
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA5			PROGRAM ELEMENT NUMBER AND NAME 0604503N SSN 688 & TRIDENT MODERNIZATION			PROJECT NUMBER AND NAME 1411 Submarine Tactical Communications System																										
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Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost																						
3130000 Submarine Communications	80.234	98.927	127.409	88.725	85.482	79.755	120.235	159.456	Continue	Continue																						

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604503N SSN 688 & TRIDENT MODERNIZATION			1411 Submarine Tactical Communications System						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	
Hardware Development*	CPFF	SSC-SD/NUWC Newport, RI	2.776								Continuing	Continuing
Hardware Development**	CPFF	SSCs/NUWC Newport, RI	0.211							Continuing	Continuing	Continuing
MCS Development	Various	Motorola, misc labs	10.214		Various							
H/W Development Facilities	Various	NUWC Newport, RI										
Software Development	CPFFWX	SSC-SD San Diego, CA	2.068					0.140	TBD	Continuing	Continuing	
Software Development	WX	NUWC Newport, RI	5.498					2.909	TBD	Continuing	Continuing	Continuing
MRTS Development	CFCC	NAVAIR, Orlando		0.000	TBD	2.238					2.238	2.238
Systems Engineering	Various	Misc Labs	11.448	0.315		3.386		4.789			19.938	Continuing
Systems Eng/Design 688 Class	Various	Misc Labs		0.000		4.674		6.672				
Site Platform Integration/Certification	Various	NUWC Newport, RI	4.794	4.779		0.748		1.853			12.174	
BCA/OPCON architecture	WX	NUWC Newport, RI	0.856	0.819		0.858		0.819			3.352	
Subtotal Product Development			37.865	5.913		11.904		17.182		Continuing	Continuing	Continuing
Remarks: * SCSS Development for SSN 688 Class submarines **CSRR Development for OHIO Class submarines												
Development Support												
Software Development (CSRR)	CPAF	Lockheed Martin Tech Sys	8.793								8.793	8.793
Integrated Logistics Support (IETM)	WX	NUWC Newport, RI	0.300								0.300	0.300
Software Engineering	WX	SSC-SD San Diego, CA	0.653			0.500					0.500	0.500
Configuration Management												
INFOSEC/IA Certification	CPFF	Merdan/SSC SD	0.906	0.760							1.666	1.666
Studies & Analyses											0.000	0.000
GFE											0.000	0.000
Award Fees											0.000	0.000
Subtotal Support			10.652	0.760		0.500		0.000		0.000	11.912	11.912
Remarks: *Supports the development of the Multi-Link Training Simulator replacement												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-5			PROGRAM ELEMENT 0604503N SSN 688 & TRIDENT MODERNIZATION			PROJECT NUMBER AND NAME 1411 Submarine Tactical Communications System						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Developmental/Operational T&E	Various	Various	4.530	0.000		1.635		0.000			6.165	Continuing
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			4.530	0.000		1.635		0.000		Continuing	Continuing	Continuing
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	Various	Various	4.590	0.900	Various	0.750	Various	0.800	Various	Continuing	Continuing	Continuing
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			4.590	0.900		0.750		0.800		Continuing	Continuing	Continuing
Remarks:												
Total Cost			57.637	7.573		14.789		17.982		Continuing	Continuing	Continuing
Remarks:												

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EXHIBIT R4, Schedule Profile																								DATE: February 2005								
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME												
RDT&E, N / BA5										PE: 0604503N TITLE: SSN 688 & TRIDENT MODERNIZATION										X1411 Submarine Tactical Communications System												
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition (CSRR) Milestones															MS C △			IOC ☆	☆		First Deployment △											
Prototype Phase																																
Software System Development																FAT △△△																
Q-70 Delivery																																
Software Interim Delivery #1 Fleet SW Delivery												ITF ▲																				
Test & Evaluation Milestones																																
Development Test																																
Operational Test																																
Production Milestones																																
LRIP																																
FRP																																
Deliveries																																

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* Not required for Budget Activities 1, 2, 3, and 6

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Exhibit R-2, RD TEN Budget Item Justification

(Exhibit R-2, page 52 of 52)

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE:	
							February 2005	
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE			
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					0604504N AIR CONTROL ENGINEERING			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	10.100	16.432	10.151	4.977	5.344	7.010	7.125	7.268
0718 MARINE AIR TRAFFIC CONTROL AND LANDING SYSTEMS (MATCALs)	5.219	4.637	4.663	0.704	0.723	0.729	0.745	0.764
0993 SHIPBOARD AIR TRAFFIC CONTROL SYSTEMS	4.595	7.998	5.102	3.834	4.175	5.829	5.918	6.035
1657 SHORE AIR TRAFFIC CONTROL (ATC) SYSTEMS	0.286	0.329	0.386	0.439	0.446	0.452	0.462	0.469
9564 TRANSPORTABLE TRANSPONDER LANDING SYSTEMS (TTLS)		3.468						
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program element provides for the development, integration, and testing of automated Air Traffic Control (ATC) hardware and software required to provide improved flight safety and more reliable all-weather ATC and landing system capabilities at Naval Air Stations and Marine Corps Air Stations and Fleet Area Control & Surveillance Facilities (FACSFAC) worldwide. Funded programs are required to upgrade or replace aging ATC and landing system equipment on aircraft, aircraft carriers, amphibious ships, Naval Air Stations, Marine Corps Air Stations and Navy/Marine Corps tactical/expeditionary airfields and remote landing sites.								

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604504N AIR CONTROL ENGINEERING			PROJECT NUMBER AND NAME 0718 MARINE AIR TRAFFIC CONTROL & LANDING SYSTEM (MATCAL)			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	5.219	4.637	4.663	0.704	0.723	0.729	0.745	0.764
RDT&E Articles Qty								
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>This program provides for continued development, integration, and testing of hardware and software to meet requirement for all-weather operation and improved flight safety of Air Traffic Control and Landing Systems at Navy/Marine Corps expeditionary airfields. Current program includes approved transition to the Air Surveillance and Precision Approach Radar Control System (ASPARCS). The ASPARCS will replace the legacy Air Traffic Control (ATC) Precision Approach Radar (PAR), Air Surveillance Radar (ASR), and Communications and Control Subsystem with a High Mobility Multipurpose Wheeled Vehicle based PAR, ASR, and Command and Control (C2) Subsystem. Efforts will commence for requirements definition, development and engineering for the ASPARCS Preplanned Product Improvements (P3I). P3I includes, but is not limited to, the design and development of software code to interface Tactical Digital Information Link (TADIL-J) input/output to existing software; to incorporate National Imagery Mapping Agency (NIMA) functionality; and enhanced simulation and training.</p>								

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604504N AIR CONTROL ENGINEERING	PROJECT NUMBER AND NAME 0718 MARINE AIR TRAFFIC CONTROL & LANDING SYSTEM (MATCAL)																	
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	FY04	FY05	FY06	FY07															
Accomplishments/Effort/Subtotal Cost	5.219	4.637	0.350																
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	FY04	FY05	FY06	FY07															
Accomplishments/Effort/Subtotal Cost			3.777	0.704															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; min-height: 100px; margin-top: 5px;"></div>																			

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604504N AIR CONTROL ENGINEERING	PROJECT NUMBER AND NAME 0718 MARINE AIR TRAFFIC CONTROL & LANDING SYSTEM (MATCAL)		

C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
Funding:				
Previous President's Budget:	5.288	4.686	4.783	0.860
Current BES/President's Budget	5.219	4.637	4.663	0.704
Total Adjustments	-0.069	-0.049	-0.120	-0.156
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.043		
Congressional rescissions				
SBIR/STTR Transfer				
OSD		-0.006	-0.004	
Navy (FMB/Sponsor/NAVAIR)			-0.162	-0.165
Economic Assumptions			0.046	0.009
Reprogrammings	-0.069			
Congressional increases				
Subtotal	-0.069	-0.049	-0.120	-0.156

Schedule:

Schedule and technical issues with the precision approach radar (PAR) and air surveillance radar (ASR) and integration with the operation subsystem/communication subsystem resulted in a no-cost close out to the Lockheed Martin contract in November 2004. The program is pursuing an acquisition decision for an existing Army PAR, ASR and C2 node in January 2005 for IOC in FY2006 to fulfill the ASPARCS requirement. This program will join with the US Army for pre-planned product improvements (P3I).

Technical:

Not Applicable.

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 4 of 30)

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604504N AIR CONTROL ENGINEERING	PROJECT NUMBER AND NAME 0718 MARINE AIR TRAFFIC CONTROL & LANDING SYSTEM (MATCAL)

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
* OPN BLI 281500, MATCAL\$	3.373	15.519	19.584	20.238	19.958	17.523	17.958	18.414	Continuing	Continuing

* OPN BLI 281500, MATCAL S is not limited to ASPARCS.

E. ACQUISITION STRATEGY:

Air Surveillance and Precision Approach Radar System (ASPARCS) is an ACAT IVT program. Lockheed Martin was awarded the contract for this effort in June of 2000. This effort included First Article development (Fixed Price Incentive) with (Firm Fixed Priced) production options. Schedule delays and technical issues with the precision approach radar (PAR) and air surveillance radar (ASR) and integration with the operation subsystem/communication subsystem resulted in a no-cost close out to the Lockheed Martin contract in November 2004. The program is pursuing an acquisition decision for an existing Army PAR, ASR and C2 node in January 2005 for IOC in FY2006 to fulfill the ASPARCS requirement. This program will join with the Army for pre-planned product improvements (P3I) and evolutionary improvements.

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604504N AIR CONTROL ENGINEERING			PROJECT NUMBER AND NAME 0718 MARINE AIR TRAFFIC CONTROL & LANDING SYSTEM (MATCAL)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Devel Phase I	C/FFP	Lockheed Martin	13.806								13.806	13.806
Primary Hardware Devel	TBD	Raytheon									0.000	
Training Development	WX	NAWCAD S.I.	0.175	0.025	01/05	0.115	11/05				0.315	
Systems Engineering	WX	NAWCAD S.I.	5.131	0.551	01/05	0.641	11/05	0.242	11/06	Continuing	Continuing	
Ancillary Hardware Deveopment	SS/FFP	Rockwell Collins	0.424								0.424	0.424
Primary Hardware Devel TTLS	FFP	ANPC	2.000								2.000	2.000
GFE	WX	NAWCAD				1.000	11/05				1.000	
Subtotal Product Development			21.536	0.576		1.756		0.242		Continuing	Continuing	
Remarks:												
Software Development	TBD	Raytheon		2.428	01/05	0.517	01/06	0.200	01/07	4.214	7.359	7.359
Integrated Logistics Support	WX	NAWCAD S.I.	0.336	0.858	01/05	0.732	11/05			Continuing	Continuing	
Configuration Management	WX	NAWCAD S.I.	0.284								0.284	
Technical Data	WX	NAWCAD S.I.	0.479	0.165	01/05					Continuing	Continuing	
Development Support MATCAL	WX	NAWCAD S.I.	0.205								0.205	
Studies and Analyses	TBD	Raytheon				0.800	11/05				0.800	0.800
Studies and Analyses	WX	NAWCAD S.I.				0.418	11/05				0.418	
											0.000	
Subtotal Support			1.304	3.451		2.467		0.200		Continuing	Continuing	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-5			PROGRAM ELEMENT 0604504N AIR CONTROL ENGINEERING			PROJECT NUMBER AND NAME 0718 MARINE AIR TRAFFIC CONTROL & LANDING SYSTEM (MATCAL)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWCAD S.I.	7.261								7.261	
Operational Test & Evaluation	WX	MCOTEA	1.072								1.072	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			8.333	0.000		0.000		0.000			8.333	
Remarks:												
Program Management Support	WX	NAWCAD S.I.	0.467	0.360	01/05	0.400	11/05	0.262	11/06	Continuing	Continuing	
Travel	WX	NAVAIR	0.081	0.050	01/05	0.040	11/05			Continuing	Continuing	
Contractor Engineering Support	TBD	Raytheon		0.200	01/05						0.200	0.200
											0.000	
											0.000	
Subtotal Management			0.548	0.610		0.440		0.262		Continuing	Continuing	
Remarks:												
Total Cost			31.721	4.637		4.663		0.704		Continuing	Continuing	
Remarks:												

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Exhibit R-2a, RDTE Project Justification
(Exhibit R-2a, page 7 of 30)

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* Not required for Budget Activities 1, 2, 3, and 6

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R-1 SHOPPING LIST - Item No. 109

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 9 of 30)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604504N AIR CONTROL ENGINEERING			PROJECT NUMBER AND NAME 0993, Shipboard Air Traffic Control Systems			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	4.595	7.998	5.102	3.834	4.175	5.829	5.918	6.035
RDT&E Articles Qty		4		1				

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Shipboard Air Traffic Control Central systems, interfacing with versions of the AN/TPX-42(V) Direct Altitude and Identity Readout system (DAIR) allow Shipboard Air Traffic Controllers to identify, marshal, and direct aircraft within a 50 Nautical Mile (NM) radius of the ship. At closer range (8NM) a ship's Automatic Carrier Landing System (ACLS) and Independent Landing Monitor (ILM) are operationally required to effect safe landing on the moving decks of ships. The AN/SPN-41 ILM and AN/SPN-46 ACLS provide verification of aircraft approach glideslope position and precise aircraft automatic control respectively during its final approach and landing sequence to an aircraft carrier. Due to acquisition limitations in rain, the Moving Target Detection (MTD) technology used in the AN/SPN-46 is being adapted for the AN/SPN-43 search surveillance radar and in the AN/SPN-35B precision approach radar. The insertion of MTD technology plus an antenna pedestal upgrade constitute the AN/SPN-35C upgrade. Dual efforts are underway to improve AN/SPN-46 system availability and supportability until at least 2020. These efforts include various Engineering Change Proposals (ECP's), and the Life Cycle Extension (LCE) program transitional changes include a re-architecture of its radar control group process with COTS technology, replacement of the computer group processing hardware, and conversion of system program software from CMS-2 to the more commonly used 'C' programming language. In recent years, the top 25% of the AN/SPN-43 frequency band has been reallocated to the Fixed Wireless Access community. Because the Navy requires an air traffic control radar, this project unit will include engineering efforts to identify requirements and develop a suitable replacement before the AN/SPN-43 becomes operationally ineffectual. Finally, the AN/TPX-42A(V)14 DAIR underwent several phased upgrades that have resulted in two field changes. System improvements include replacing militarized front-end equipment in the track processor with COTS technology, converting the operational program software to more commonly used and flexible 'C' language, and integrating a flat panel monitor into the AN/UYQ-70 console. The development of an Air Traffic Control common console will reduce operational costs, improve reliability, and provide compatible interfaces and commonality for all ATC workstations.

Test Article Descriptions:

For AN/SPN-46 Radar Control Group three test articles are required to perform concurrent testing in FY 2005. Currently the test article can best be described as a direct replacement of the Radar Control Group equipment rack, employing a set of Versa Module Eurocards to improve the performance of antenna control, antenna position reporting and radar timing control functions.

For AN/SPN-46 Computer Group the test article is required to perform a series of tests in FY 2008. This test article will replace two existing computer racks with a single rack utilizing a set of state-of-the-art Versa Module Eurocard processors and software rewritten in a high order program language ("C").

For AN/TPX-42 Air Traffic Control Common Console the test article is required to perform operational assessment in FY 2006. Currently the test article can be described primarily in terms of its functionality. It will combine in the existing AN/TPX-42 console's hardware with the functionality to display targets processed by AN/TPX-42, AN/SPN-46 and the Joint Precision Approach and Landing System.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604504N AIR CONTROL ENGINEERING	PROJECT NUMBER AND NAME 0993, Shipboard Air Traffic Control Systems																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Shipboard testing for AN/SPN-35C.</td> <td style="text-align: center;">0.290</td> <td></td> <td></td> <td></td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 04	FY 05	FY 06	FY 07	Shipboard testing for AN/SPN-35C.	0.290				RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Shipboard testing for AN/SPN-35C.	0.290																		
RDT&E Articles Quantity																			
<div style="border: 1px solid black; height: 60px; margin-top: 10px;"></div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>AN/SPN-46 Radar Control Group</td> <td style="text-align: center;">2.196</td> <td style="text-align: center;">5.794</td> <td style="text-align: center;">2.567</td> <td></td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td style="text-align: center;">3</td> <td></td> <td></td> </tr> </table>						FY 04	FY 05	FY 06	FY 07	AN/SPN-46 Radar Control Group	2.196	5.794	2.567		RDT&E Articles Quantity		3		
	FY 04	FY 05	FY 06	FY 07															
AN/SPN-46 Radar Control Group	2.196	5.794	2.567																
RDT&E Articles Quantity		3																	
<div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> Conduct critical design review, complete system development, build test articles and conduct environmental testing, conduct configuration audits, conduct a test readiness review and operational assessment, and obtain Full Rate Production decision. The three test articles are required to perform concurrent testing. Currently these test articles can best be described as a direct replacement of the Radar Control Group equipment rack, employing a set of Versa Module Eurocards to improve the performance of antenna control, antenna position reporting and radar timing control functions. </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>AN/SPN-46 Computer Group Replacement</td> <td></td> <td style="text-align: center;">0.797</td> <td style="text-align: center;">1.699</td> <td style="text-align: center;">3.834</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td style="text-align: center;">1</td> </tr> </table>						FY 04	FY 05	FY 06	FY 07	AN/SPN-46 Computer Group Replacement		0.797	1.699	3.834	RDT&E Articles Quantity				1
	FY 04	FY 05	FY 06	FY 07															
AN/SPN-46 Computer Group Replacement		0.797	1.699	3.834															
RDT&E Articles Quantity				1															
<div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> This subproject replaces the AN/AYK-14 processor and converts software from CMS to "C" language. Conduct a software requirements review and develop a specification. Develop software and hardware, build a test article, and integrate and test it in a lab environment. Conduct a test readiness review, developmental test and operational test. The test article is required to perform a series of tests in FY 2008. This test article will replace two existing computer racks with a single rack utilizing a set of state-of-the-art Versa Module Eurocard processors and software rewritten in a high order program language ("C"). </div>																			

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 11 of 30)

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604504N AIR CONTROL ENGINEERING	PROJECT NUMBER AND NAME 0993, Shipboard Air Traffic Control Systems																	
B. Accomplishments/Planned Program (Cont.)																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>AN/TPX-42 Improvements</td><td style="text-align: center;">2.109</td><td style="text-align: center;">1.407</td><td style="text-align: center;">0.836</td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td style="text-align: center;">1</td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	AN/TPX-42 Improvements	2.109	1.407	0.836		RDT&E Articles Quantity		1		
	FY 04	FY 05	FY 06	FY 07															
AN/TPX-42 Improvements	2.109	1.407	0.836																
RDT&E Articles Quantity		1																	
<div style="border: 1px solid black; padding: 10px; min-height: 100px;"><p>Complete development and test of AN/TPX-42 Track Processor Upgrade and complementary software conversion (CMS to 'C'), with the resulting design applied to production of the AN/TPX-42A(V)14 'A' Kits and 'C' Kits. Develop an ATC Common Console, using the console from AN/TPX-42A(V)14 with Field Change 2 as the core technology. Conduct requirements and design reviews, and conduct an Operational Assessment. Following successful Full Rate Production approval, the design change will be introduced into the production of 'A' Kits and 'C' Kits. It is anticipated that this technology insertion will result in a formal nomenclature change for the AN/TPX-42 system, so the identification of the modification kits will change to 'F' and 'G' Kits, respectively.</p><p>The test article is required to perform operational assessment in FY 2006. Currently the test article can be described primarily in terms of its functionality. It will combine in the existing AN/TPX-42 console's hardware with the functionality to display targets processed by AN/TPX-42, AN/SPN-46 and the Joint Precision Approach and Landing System.</p></div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Reprogrammings</td><td></td><td></td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Reprogrammings					RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Reprogrammings																			
RDT&E Articles Quantity																			

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604504N AIR CONTROL ENGINEERING	PROJECT NUMBER AND NAME 0993, Shipboard Air Traffic Control Systems

C. PROGRAM CHANGE SUMMARY:

	<u>FY2004</u>	<u>FY2005</u>	<u>FY2006</u>	<u>FY2007</u>
Funding:				
FY 2005 President's Budget:	4.770	8.079	3.092	3.122
FY 2006 President's Budget:	4.595	7.998	5.102	3.834
Total Adjustments	-0.175	-0.081	2.010	0.712
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.074		
Congressional rescissions				
SBIR/STTR Transfer	-0.021			
OSD		-0.007	-0.032	-0.021
Navy (FMB/Sponsor/NAVAIR)			1.991	0.659
Economic Assumptions			0.051	0.074
Reprogrammings	-0.154			
Congressional increases				
	-0.175	-0.081	2.010	0.712

Schedule:

For TPX-42 ATC Common Console, the major schedule changes reflect reassessment of scope from an ACAT-IVT to an Abbreviated Acquisition Program. Therefore, instead of Technical and Operational Evaluations there now appears an Operational Assessment (OA). A previous element, mislabelled "Development Test", was the unit and integration testing performed by the system designers and is continuous throughout development. It did not constitute a significant effort or event and has been dropped from the current schedule. TRR has been moved to 4Q06, to immediately precede OA. Also, the previous schedule did not take into account the need for a test article, which has been added in FY 2006.

For SPN-46 Radar Control Group the schedule has been reworked completely, based on engineering analysis performed in FY 2004 to determine the scope and priority of various SPN-46 modifications. Thus, not only is this subproject described differently in the current schedule, but some of the elements retained from the previous schedule are now depicted with different timing. However, the conclusion of the subproject has remained constant: FRP in 2Q 07.

For SPN-46 Computer Group the schedule is new with this submission, because it meets the dollar reporting threshold in FY 2006.

Technical:

Not Applicable.

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604504N AIR CONTROL ENGINEERING			PROJECT NUMBER AND NAME 0993, Shipboard Air Traffic Control Systems				

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
OPN BLI 283200 Automatic Carrier Landing Systems	17.339	12.438	17.388	18.162	18.755	19.236	19.745	20.281	Continuing	Continuing
OPN BLI 283100 Shipboard Air Traffic Control	7.791	8.642	7.307	7.537	7.772	7.995	8.228	9.554	Continuing	Continuing

E. ACQUISITION STRATEGY:

The AN/SPN-35C upgrade acquisition will consist of several commercial procurements that will be integrated by NAWCAD into the final configuration. Four primary contracts will be used, with CLINs for a base year and four options. In addition, several miscellaneous or ancillary hardware requirements will also be required that will take the form of small purchases, to be made from the open market (for items such as cables, connectors and backshells).

AN/SPN-46 Radar Control Group redesign and AN/SPN-46 Computer Group replacement subprojects are part of the AN/SPN-46 Life Cycle Extension (LCE) project, which is anticipated to be designated ACAT IV. Initial contract was awarded in FY 2004 for the Radar Control Group, and is expected to be awarded in FY 2006 for the Computer Group.

AN/TPX-42 Common Console is an anticipated ACAT IV-T program, with improvements being incorporated into the production of AN/TPX-42 upgrade kits.

All other projects are non-ACAT upgrades to existing systems. An evolutionary acquisition approach is being used to introduce these technology advancements that either satisfy user requirements, such as all weather operation, or address supportability and cost of ownership problems.

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604504N AIR CONTROL ENGINEERING			PROJECT NUMBER AND NAME 0993, Shipboard Air Traffic Control Systems						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary H/W Dev - SPN-35	WR	NAWCAD, Pax River, MD	4.845								4.845	
Primary H/W Dev - SPN-41	WR	NAWCAD, Pax River, MD	6.890								6.890	
Primary H/W Dev - SPN-43	WR	NAWCAD, Pax River, MD	7.503								7.503	
Primary H/W Dev - SPN-46	WR	NAWCAD, Pax River, MD	10.524	0.548	11/04			0.310	11/06	Continuing	Continuing	
Primary H/W Dev - SPN-46	SS/CR	SNC, Sierra, NV		4.925	12/04	0.550	12/05	0.270	12/06		5.745	5.745
Primary H/W Dev - TPX-42	WR	NAWCAD, Pax River, MD	2.035	0.473	11/04						2.508	
Training Development - SPN-35	C/T&M	IDSi Indian Head, MD	0.030								0.030	0.030
Training Development - SPN-46	C/T&M	IDSi Indian Head, MD	0.090								0.090	0.090
											0.000	
											0.000	
											0.000	
Subtotal Product Development			31.917	5.946		0.550		0.580		Continuing	Continuing	
Remarks:												
Software Development - SPN-46	WR	NAWCAD, Pax River, MD	0.255	0.225	11/04	0.293	11/05	0.332	11/06	Continuing	Continuing	
Software Development - SPN-46	C/CPFF	TBD		0.594	01/05	2.740	12/05	2.864	12/06	Continuing	Continuing	
Software Development - TPX-42	WR	NAWCAD, Pax River, MD	2.265	0.664	11/04						2.929	
Integrated Log Spt - SPN-46	WR	NAWCAD, Pax River, MD	0.072								0.072	
Integrated Log Spt - TPX-42	WR	NAWCAD, Pax River, MD	0.362	0.270	11/04						0.632	
Studies & Analyses - SPN-43	WR	NAWCAD, Pax River, MD	0.315								0.315	
Studies & Analyses - TPX-42	WR	NAWCAD, Pax River, MD									0.000	
Studies & Analyses - SPN-46	WR	NAWCAD, Pax River, MD	0.030	0.243							0.273	
Subtotal Support			3.299	1.996		3.033		3.196		Continuing	Continuing	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE&E, N / BA-5			0604504N AIR CONTROL ENGINEERING			0993, Shipboard Air Traffic Control Systems						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Eval - SPN-35	WR	NAWCAD, Pax River, MD	0.967								0.967	
Developmental Test & Eval - SPN-46	WR	NAWCAD, Pax River, MD				0.626	11/05				0.626	
Developmental Test & Eval - TPX-42	WR	NAWCAD, Pax River, MD				0.774	11/05				0.774	
Operational Test & Eval - SPN-35	WR	OPTEVFOR, Norfolk, VA	0.058								0.058	
Operational Test & Eval - TPX-42	WR	OPTEVFOR, Norfolk, VA				0.062	11/05				0.062	
											0.000	
											0.000	
Subtotal T&E			1.025	0.000		1.462		0.000		0.000	2.487	
Remarks:												
Logistics Management Support	C/CR	NTA, Patuxent River, MD	1.213	0.041	11/04	0.042	12/05	0.043	12/06	Continuing	Continuing	
Travel	WR	NAWCAD, Pax River, MD	0.030	0.015	11/04	0.015	11/05	0.015	11/06	Continuing	Continuing	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Management			1.243	0.056		0.057		0.058		Continuing	Continuing	
Remarks:												
Total Cost			37.484	7.998		5.102		3.834		Continuing	Continuing	
Remarks:												

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EXHIBIT R4, Schedule Profile																									DATE:							
AN/TPX-42 Air Traffic Control Common Console																									February 2005							
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME												
RDT&E, N / BA-5										0604504N AIR CONTROL ENGINEERING										0993, Shipboard Air Traffic Control Systems												
Fiscal Year	2004				2005				2006				2007				2007				2008				2009				2010			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Prototype Phase																																
System Requirements Review	SRR ▲		SRR ▲	SRR ▲																												
Preliminary Design Review					PDR △																											
System Development																																
Critical Design Review					CDR △																											
Quality Design and Build					□																											
Test Article (EDM) Delivery (Qty 1)										1 △																						
Test Readiness Review											TRR △																					
Test & Evaluation Milestones																																
Operational Assessment												□																				
Production Milestones													△																			
Full Rate Production Decision																																
First Lot Deliveries (see Note below)																																

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Exhibit R-2a, RDTE&E Project Justification
(Exhibit R-2a, page 17 of 30)

* NOTE: changes to console introduced in production of AN/TPX-42A(V)14 'F' Kit and 'G' Kit.

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 18 of 30)

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* Not required for Budget Activities 1, 2, 3, and 6

Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 19 of 30)

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Exhibit R-4a, Schedule Detail						DATE:		
AN/SPN-46 RADAR CONTROL GROUP						February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME		
RDT&E, N / BA-05			0604504N Air Control			0993 Carrier ATC		
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Reviews:								
System Requirements Review (SRR)		1Q						
Integrated Test Plan Technical Readiness Review (ITP TRR)		3Q						
Configuration Design Review (CDR)		3Q						
Engineering Demonstration Model (EDM TRR)			1Q					
Production Readiness Review (PRR)			2Q					
Physical Configuration Audit (PCA)				3Q				
Test Events								
DT-A I, DT-A II, DT B-1 Testing	4Q	1Q-4Q						
DT-B II		4Q	1Q					
DT-B III		4Q	1Q-3Q					
DT-B IV			1Q-2Q					
Radar Control Group Redesign Development								
Milestones:								
1. Acquisition Strategy Review (ASR)		1Q						
2. Milestone Decision B		2Q						
3. Demonstation Readiness Review (DRR)		3Q						
4. Preliminary Operational Capibility (POC)			1Q					
5. Milestone Decision C			3Q					
6. Full Rate Production (FRP)				2Q				
7. Functional Configuration Audit (FCA)				3Q				
8. Initial Operational Capibility (IOC)					1Q			
9. Material Support Date (MSD)						3Q		
10. Full Operational Capibility (FOC)							3Q	
Production Milestones								
1. Letter Contract Award		2Q						
2. Production Contract Award			3Q					
3. Low Rate Initial Production Lot 1			3Q-4Q	1Q-4Q				
4. Full Rate Production Lot 2				3Q-4Q	1Q-4Q			
5. Full Rate Production Lot 3					1Q-4Q	1Q-3Q		
Deliveries:								
Prototype	3Q							
EDM 1, EDM 2, and EDM 3		4Q						

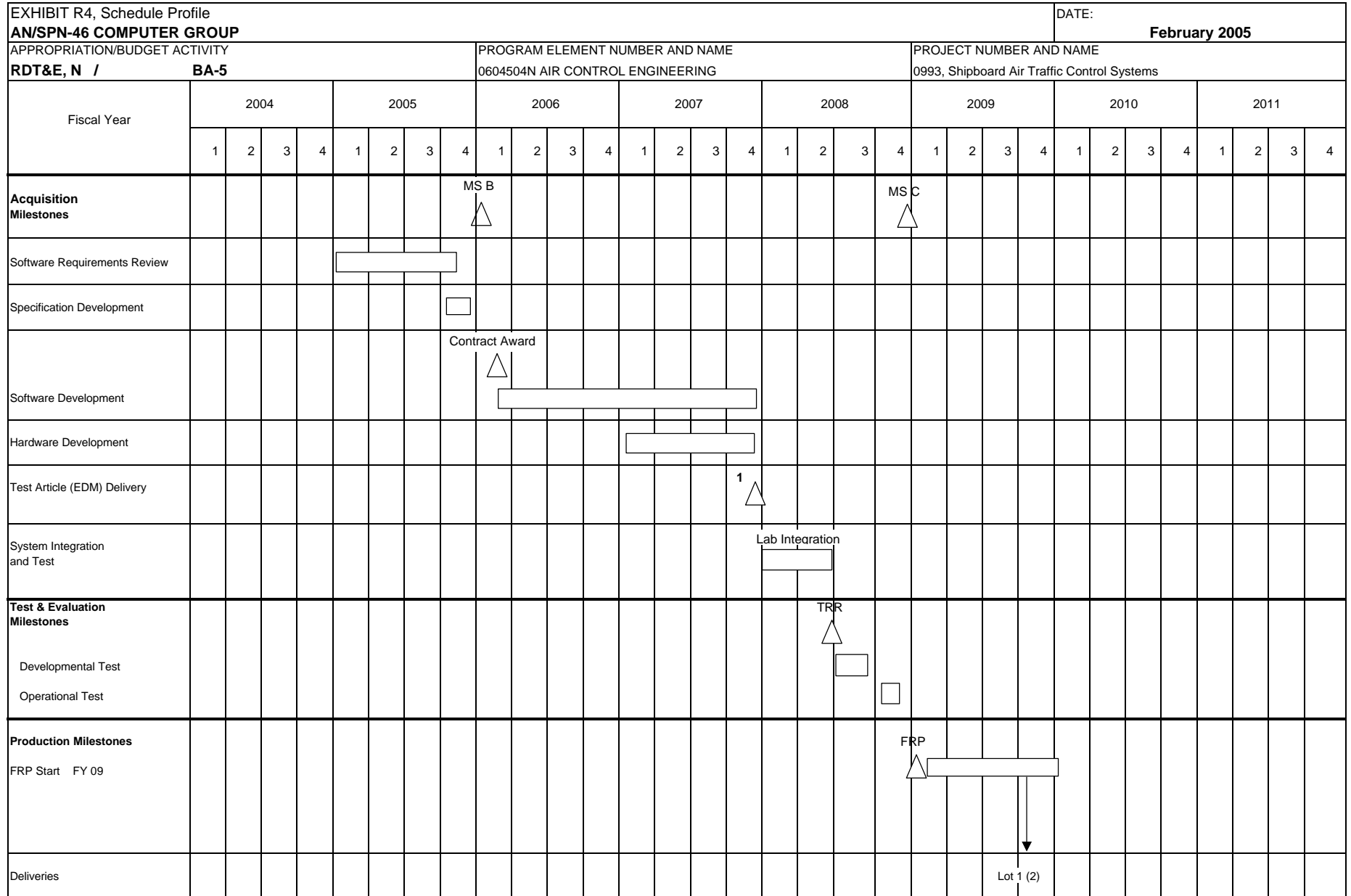
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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 20 of 30)

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Exhibit R-2a, RDTEN Project Justification
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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 22 of 30)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604504N AIR CONTROL ENGINEERING				PROJECT NUMBER AND NAME 1657, Shore Air Traffic Control Systems			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	0.286	0.329	0.386	0.439	0.446	0.452	0.462	0.469
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This program provides for engineering development, integration, adaptation, and testing of new and/or modernized real-time Air Traffic Control (ATC) systems, air navigational aids, landing systems, and ATC communication systems for Naval and Marine Corps Air Stations (NAS/MCAS) and Fleet Area Control and Surveillance Facilities (FACSFAC). These systems are critical to Naval Aviation and provide for safe, efficient air operations. Additionally the FAA is effecting major modernization of the National Airspace System (NAS). The Navy must maintain compatibility with FAA developed ATC systems in order to ensure seamless interoperability within the NAS. NAS modernization initiatives in Project 1657 include the Visual Information Display System (VIDS) and follow-on Pre-planned Product Improvements, with additional RDT&E efforts required for modified commercial-off-the-shelf (COTS) ATC systems and equipment for modernization and recapitalization of these systems at our NAS, MCAS & FACSFAC facilities worldwide. Landing Systems initiatives include re-engineering and technology insertion efforts for the Precision Approach Radar (PAR), Tactical Air Navigation System (TACAN), and other landing systems.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604504N AIR CONTROL ENGINEERING	PROJECT NUMBER AND NAME 1657, Shore Air Traffic Control Systems		
(U) B. Accomplishments/Planned Program				
VIDS	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.160	0.262	0.186	0.220
RDT&E Articles Quantity				
Continue engineering development of pre-planned product improvements for the Visual Information Display System (VIDS) and initiate efforts to incorporate VIDS into the FACSFACs.				
FACSFAC	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			0.100	0.100
RDT&E Articles Quantity				
Initiate re-engineering and technology insertion efforts for the Precision Approach Radar, the Tactical Air Navigation System and other Landing Systems.				
FACSFAC	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.126	0.067	0.100	0.119
RDT&E Articles Quantity				
Initiate research efforts to determine the best technical approach to integrate various data link and communication system upgrades into the FACSFAC System including the Digital Airport Surveillance Radar into the FACSFAC FACTS 3200 system.				

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<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"></th> <th style="text-align: right;"><u>FY2004</u></th> <th style="text-align: right;"><u>FY2005</u></th> <th style="text-align: right;"><u>FY2006</u></th> <th style="text-align: right;"><u>FY2007</u></th> </tr> </thead> <tbody> <tr> <td>Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Previous President's Budget:</td> <td style="text-align: right;">0.297</td> <td style="text-align: right;">0.337</td> <td style="text-align: right;">0.382</td> <td style="text-align: right;">0.434</td> </tr> <tr> <td>Current BES/President's Budget:</td> <td style="text-align: right;">0.286</td> <td style="text-align: right;">0.329</td> <td style="text-align: right;">0.386</td> <td style="text-align: right;">0.439</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-0.011</td> <td style="text-align: right; border-top: 1px solid black;">-0.008</td> <td style="text-align: right; border-top: 1px solid black;">0.004</td> <td style="text-align: right; border-top: 1px solid black;">0.005</td> </tr> <tr> <td colspan="5" style="padding-top: 20px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional program reductions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional undistributed reductions</td> <td></td> <td style="text-align: right;">-0.008</td> <td></td> <td></td> </tr> <tr> <td> Congressional rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> SBIR/STTR Transfer</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> OSD</td> <td></td> <td></td> <td></td> <td style="text-align: right;">-0.001</td> </tr> <tr> <td> Navy (FMB/Sponsor/NAVAIR)</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Economic Assumptions</td> <td></td> <td></td> <td style="text-align: right;">0.004</td> <td style="text-align: right;">0.006</td> </tr> <tr> <td> Reprogrammings</td> <td style="text-align: right;">-0.011</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional increases</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td style="text-align: right; border-top: 1px solid black;">-0.011</td> <td style="text-align: right; border-top: 1px solid black;">-0.008</td> <td style="text-align: right; border-top: 1px solid black;">0.004</td> <td style="text-align: right; border-top: 1px solid black;">0.005</td> </tr> </tbody> </table> <p style="margin-top: 20px;">(U) Schedule: Not Applicable.</p> <p style="margin-top: 20px;">(U) Technical: Not Applicable.</p>						<u>FY2004</u>	<u>FY2005</u>	<u>FY2006</u>	<u>FY2007</u>	Funding:					Previous President's Budget:	0.297	0.337	0.382	0.434	Current BES/President's Budget:	0.286	0.329	0.386	0.439	Total Adjustments	-0.011	-0.008	0.004	0.005	Summary of Adjustments					Congressional program reductions					Congressional undistributed reductions		-0.008			Congressional rescissions					SBIR/STTR Transfer					OSD				-0.001	Navy (FMB/Sponsor/NAVAIR)					Economic Assumptions			0.004	0.006	Reprogrammings	-0.011				Congressional increases						-0.011	-0.008	0.004	0.005
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Exhibit R-2a, RDTE Project Justification
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5		0604504N AIR CONTROL ENGINEERING			1657, Shore Air Traffic Control Systems						
D. OTHER PROGRAM FUNDING SUMMARY:											
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>	
OPN BLI 284000 National Air Space System	15.912	13.042	18.446	27.589	25.446	29.114	29.834	30.588	Continuing	Continuing	
OPN BLI 284500 Air Station Support Equip	7.969	3.618	3.870	3.968	4.081	4.175	4.274	4.379	Continuing	Continuing	
OPN BLI 284600 Microwave Landing System	0.000	7.188	7.733	9.140	9.374	10.396	10.681	10.980	Continuing	Continuing	
OPN BLI 284700 FACSAC	3.859	3.690	3.609	3.775	3.890	4.014	4.133	4.260	Continuing	Continuing	
E. ACQUISITION STRATEGY:											
All projects are non-ACAT upgrades to existing systems. An evolutionary acquisition approach is being used to introduce technology advancements that either satisfy emergent user requirements or address supportability and cost of ownership problems.											

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604504N AIR CONTROL ENGINEERING			PROJECT NUMBER AND NAME 9564 TRANSPORTABLE TRANSPONDER LANDING SYSTEM			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		3.468						
RDT&E Articles Qty								
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This funding will support development and testing of hardware and software modifications to the existing Transportable Transponder Landing System (TTLS) product to enhance operational capabilities compatible with expeditionary U.S. Marine Corps Air Traffic Control requirements. Improvements include interoperability, software compatibility, and hardware upgrades including miniaturization to support improved transportability.</p>								

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Exhibit R-2a, RDTEN Project Justification
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604504N AIR CONTROL ENGINEERING	PROJECT NUMBER AND NAME 9564 TRANSPORTABLE TRANSPONDER LANDING SYSTEM																	
B. Accomplishments/Planned Program																			
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Accomplishments/Effort/Subtotal Cost																			
RDT&E Articles Quantity																			

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604504N AIR CONTROL ENGINEERING	PROJECT NUMBER AND NAME 9564 TRANSPORTABLE TRANSPONDER LANDING SYSTEM		

C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
Funding:				
Previous President's Budget:	0.000	0.000	0.000	0.000
Current BES/President's Budget	0.000	3.468	0.000	0.000
Total Adjustments	0.000	3.468	0.000	0.000
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.032		
Congressional rescissions				
SBIR/STTR Transfer				
OSD				
Navy (FMB/Sponsor/NAVAIR)				
Economic Assumptions				
Reprogrammings				
Congressional increases		3.500		
Subtotal	0.000	3.468	0.000	0.000

Schedule:

Not Applicable.

Technical:

Not Applicable.

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 29 of 30)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604504N AIR CONTROL ENGINEERING		PROJECT NUMBER AND NAME 9564 TRANSPORTABLE TRANSPONDER LANDING SYSTEM						
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u> N/A	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
E. ACQUISITION STRATEGY: N/A. This is a technology demonstration to determine the applicability of this equipment to Marine Corps Expeditionary Air Traffic Control.										

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 30 of 30)

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification								DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					R-1 ITEM NOMENCLATURE 0604507N / Enhanced Modular Signal Processor (EMSP)				
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost		0.991	1.063	1.079	0.000	0.000	0.000	0.000	0.000
1440 Enhanced Modular Signal Processor		0.991	1.063	1.079					
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The objective of this Program Element (PE) is to improve Navy Signal Processing Hardware and Software Capabilities. Efforts include the development of a Portable Digital Signal Processing Operating System (PDOS) , an associated tool set that supports development of reusable signal processing application software, and replacement of obsolete, unreliable and unsupportable AN/UYS-1/2/2A legacy host computer resources.</p>									

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05		PROGRAM ELEMENT NUMBER AND NAME 0604507N / Enhanced Modular Signal Processor (EMSP)			PROJECT NUMBER AND NAME 1440 / Enhanced Modular Signal Processor			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	0.991	1.063	1.079	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05	PROGRAM ELEMENT NUMBER AND NAME 0604507N / Enhanced Modular Signal Processor (EMSP)	PROJECT NUMBER AND NAME 1440 / Enhanced Modular Signal Processor		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
PDOS Development	0.230	0.250	0.250	
RDT&E Articles Quantity				
Development of a Portable Digital Signal Processing Operating System, an associated tool set that supports development of reusable signal processing application software.				
	FY 04	FY 05	FY 06	FY 07
Legacy Host Computer Replacement of AN/UYS-1/2/	0.761	0.813	0.829	
RDT&E Articles Quantity				
Investigate and commence replacement of AN/UYS-1/2/2A legacy host computer resources which are obsolete, unreliable and unsupportable.				
	FY 04	FY 05	FY 06	FY 07
RDT&E Articles Quantity				

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EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2005																																																																											
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C. PROGRAM CHANGE SUMMARY: <table style="width: 100%; border-collapse: collapse;"><thead><tr><th style="text-align: left; width: 45%;"></th><th style="text-align: right; width: 10%;">FY 2004</th><th style="text-align: right; width: 10%;">FY 2005</th><th style="text-align: right; width: 10%;">FY 2006</th><th style="text-align: right; width: 10%;">FY 2007</th></tr></thead><tbody><tr><td>Funding:</td><td></td><td></td><td></td><td></td></tr><tr><td>Previous FY 2005 President's Budget: (FY05 President's Controls)</td><td style="text-align: right;">0.994</td><td style="text-align: right;">1.075</td><td style="text-align: right;">1.088</td><td style="text-align: right;">0.000</td></tr><tr><td>Current FY 2006/2007 President's Budget: (FY06/07 President's Controls)</td><td style="text-align: right;">0.991</td><td style="text-align: right;">1.063</td><td style="text-align: right;">1.079</td><td style="text-align: right;">0.000</td></tr><tr><td>Total Adjustments</td><td style="text-align: right; border-top: 1px solid black;">-0.003</td><td style="text-align: right; border-top: 1px solid black;">-0.012</td><td style="text-align: right; border-top: 1px solid black;">-0.009</td><td style="text-align: right; border-top: 1px solid black;">0.000</td></tr><tr><td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td></tr><tr><td> Congressional program reductions</td><td></td><td></td><td></td><td></td></tr><tr><td> Congressional undistributed reductions</td><td></td><td style="text-align: right;">-0.011</td><td></td><td></td></tr><tr><td> Congressional rescissions</td><td></td><td></td><td></td><td></td></tr><tr><td> SBIR/STTR Transfer</td><td></td><td></td><td></td><td></td></tr><tr><td> Economic Assumptions</td><td></td><td></td><td></td><td></td></tr><tr><td> Reprogrammings</td><td></td><td></td><td></td><td></td></tr><tr><td> Other Navy/OSD Adjustments</td><td style="text-align: right;">-0.003</td><td style="text-align: right;">-0.001</td><td style="text-align: right;">-0.009</td><td></td></tr><tr><td> Congressional increases</td><td></td><td></td><td></td><td></td></tr><tr><td> Subtotal</td><td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.003</td><td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.012</td><td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.009</td><td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">0.000</td></tr></tbody></table> <div style="margin-top: 20px;">Schedule: None</div> <div style="margin-top: 20px;">Technical: None</div>				FY 2004	FY 2005	FY 2006	FY 2007	Funding:					Previous FY 2005 President's Budget: (FY05 President's Controls)	0.994	1.075	1.088	0.000	Current FY 2006/2007 President's Budget: (FY06/07 President's Controls)	0.991	1.063	1.079	0.000	Total Adjustments	-0.003	-0.012	-0.009	0.000	Summary of Adjustments					Congressional program reductions					Congressional undistributed reductions		-0.011			Congressional rescissions					SBIR/STTR Transfer					Economic Assumptions					Reprogrammings					Other Navy/OSD Adjustments	-0.003	-0.001	-0.009		Congressional increases					Subtotal	-0.003	-0.012	-0.009	0.000
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R-1 SHOPPING LIST - Item No. 110

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: FEBRUARY 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05			PROGRAM ELEMENT NUMBER AND NAME 0604507N / Enhanced Modular Signal Processor (EMSP)			PROJECT NUMBER AND NAME 1440 / Enhanced Modular Signal Processor				
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>Complete</u>	<u>Total Cost</u>
OPN BLI 2980 / Items Less Than \$5M (N61 NSP portion only)	0.3	0.4	0.6	0.0	0.0	0.0	0.0	0.0	0.0	1.3
E. ACQUISITION STRATEGY:										
N/A										
F. MAJOR PERFORMERS:										
Naval Air Warfare Center/Patuxent River (NAWC/Patuxent River): EMSP Computer Program Support Activity (CPSA), Technical Design Agent										
Naval Sea Systems Command (NAVSEA/Crane): EMSP ISEA/Hardware Support Activity										

R-1 SHOPPING LIST - Item No. 110

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)											DATE: FEBRUARY 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME									
RDT&E, N / BA-05			0604507N / Enhanced Modular Signal Processor (EMSP)			1440 / Enhanced Modular Signal Processor									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Signal Processor COTS Technology	Var.	Var.	3.215									0.000	3.215		
Subtotal Product Development			3.215	0.000		0.000		0.000		0.000		0.000	3.215		
Remarks:															
Software Development	WX	NAWC/Pax River, MD	4.049	0.681	12/03	0.652	10/04	0.643	10/05			0.000	6.025		
Hardware Development	WX	NAVSEA/Crane, IN	0.439	0.260	10/03	0.329	10/04	0.389	10/05			0.000	1.417		
S/W, H/W Dev./Common Processing	Var.	Var.	0.050	0.020	01/04	0.054	01/05	0.022	10/05			0.000	0.146		
Common Processing	IP	ARI, CT	0.225									0.000	0.225		
Subtotal Support			4.763	0.961		1.035		1.054		0.000		Continuing	Continuing		
Remarks:															

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)											DATE: FEBRUARY 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05			PROGRAM ELEMENT 0604507N / Enhanced Modular Signal Processor (EMSP)			PROJECT NUMBER AND NAME 1440 / Enhanced Modular Signal Processor									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		0.000	0.000		
Remarks:															
Program Management Support	IP/CPFF	TWD & Associates, VA	0.353	0.030	01/04							0.000	0.383		
Program Management Support	CPAF	BAE Systems, MD				0.028	12/04	0.025	11/05			0.000	0.053		
Subtotal Management			0.353	0.030		0.028		0.025		0.000		Continuing	Continuing		
Remarks:															
Total Cost			8.331	0.991		1.063		1.079		0.000		0.000	11.464		
Remarks:															

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:											
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-05												0604507N / Enhanced Modular Signal Processor (EMSP)												1440 / Enhanced Modular Signal Processor											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4							
PDOS and Tools																																			
Acquisition Milestones																																			
PDOS & Tools Development, Research, Investigation																																			
Develop PDOS Specification																																			
Develop Prototype OS, Tools																																			
Develop PDOS test suites																																			
Develop Signal Processing Benchmark																																			
Test & Evaluation Milestones																																			
Demonstrate PDOS																																			
Production Milestones																																			
Work with Industry to Productize PDOS																																			
Deliveries																																			



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CLASSIFICATION:

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:											
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-05												0604507N / Enhanced Modular Signal Processor (EMSP)												1440 / Enhanced Modular Signal Processor											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
Legacy Host Computer Replacement																																			
Acquisition Milestones																																			
AN/UYS-1 Investigated Legacy Computer Replacement																																			
AN/UYS-2/2A Investigate Legacy Computer Replacement																																			
AN/UYS-1 COTS Software Development																																			
AN/UYS-2/2A COTS Software Development																																			
Test & Evaluation Milestones																																			
AN/UYS-1 Validation Testing																																			
AN/UYS-2/2A Validation Test																																			
Production Milestones																																			
AN/UYS-1 Contract for Delivery of Replacement host																																			
AN/UYS-2/2A Contract for Delivery of Replacement host																																			
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R-1 SHOPPING LIST - Item No. 110

CLASSIFICATION:

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R-1 SHOPPING LIST - Item No. 110

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE:	
							February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					R-1 ITEM NOMENCLATURE 0604512N Shipboard Aviation Systems			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	23.479	29.312	33.029	31.490	22.018	21.199	21.589	21.935
2232 - CV Launch & Recovery Systems	18.125	28.340	33.029	31.490	22.018	21.199	21.589	21.935
9071 - Shipboard Aviation Information Technology	3.912							
9385 - Machine Vision Confirmation of Launch Bar Eng	1.442							
9565 - Synthetic Material Arresting Cable		0.972						
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>This Navy unique project addresses the System Development and Demonstration (SDD) of all systems required to recover and launch Navy/Marine Corps aircraft (fixed/rotary wing and Vertical/Short Take-Off and Landing (VSTOL) operating aboard aircraft carriers (CV/CVN), amphibious assault ships (LHA/LHD) and aviation facility ships. This program element covers projects 2232, 9071, 9385 and 9565, and includes the funding of Production Representative Models (PRM):</p> <ul style="list-style-type: none">- (U) Virtual Imaging System for Approach and Landing (VISUAL): VISUAL provides the Landing Signal Officer (LSO) with enhanced information during recovery operations in low visibility, day and night conditions.- (U) Moriah Wind System (MWS): Integrated digital wind measurement designed to replace the Type F wind system on all U.S. Navy air capable ships.- (U) Advanced Arresting Gear (AAG): The AAG replaces the MK7 arresting gear, which has reached the limits of its operating capability. Upon completion of the AAG SDD phase, we will initiate three technology insertion efforts for the Electromagnetic Aircraft Launch System (EMALS) and the steam catapult:<ul style="list-style-type: none">1) EMALS Advanced Control Technology Insertion: Introduction of sensorless control technologies, resulting in removal of a significant number of feedback sensors in the system; improving reliability, maintainability and availability.2) EMALS High Density Energy Storage: Introduction of solid state energy storage technology to replace the first generation rotary inertial systems. This will result in a 300 Long Ton reduction in ship system installed weight with a corresponding reduction in Height of Center of Gravity Above the Baseline, and enhanced reliability, availability and maintainability.3) Advanced Catapult Control System for Steam Catapults: Introduce EMALS control, prognostics and health monitoring technology into the steam catapult, providing a common operator interface, reduced maintenance and enhanced availability. This effort compliments the improvements introduced into the arresting gear through AAG. <p>- (U) Shipboard Aviation Data Management System Initiative: This initiative will use state-of-the-art information technology and decision support systems to automate the current manual intensive process in collecting and distributing information to enable aviation operations on board aircraft carriers to be accomplished in a more efficient and effective manner.</p> <p>- (U) Machine Vision Confirmation of Launch Bar Engagement: This program will develop a system based on machine vision technology to verify the proper hook up of aircraft to the catapult under all operating conditions.</p> <p>- (U) Synthetic Material Arresting Cable: This program will develop and test a new Synthetic Fiber Arresting Gear cable to replace the current steel cable material with a lighter weight material having a higher strength-to-weight ratio.</p>								

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 1 of 14)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604512N Shipboard Aviation Systems			PROJECT NUMBER AND NAME 2232 - CV Launch & Recovery Systems			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	18.125	28.340	33.029	31.490	22.018	21.199	21.589	21.935
RDT&E Articles Qty	4	1						

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This Navy unique project addresses the System Development and Demonstration (SDD) of all systems required to recover and launch Navy/Marine Corps aircraft [fixed/rotary wing and Vertical/Short Take-Off and Landing (VSTOL)] operating aboard aircraft carriers (CV/CVN), amphibious assault ships (LHA/LHD) and aviation facility ships. This program includes the following systems under Project 2232, including the funding of production representative models (PRM):

- (U) Moriah Wind System (MWS): MWS replaces current analog wind system with an integrated digital wind measurement system which will be an affordable, LAN compatible, wind suite for all classes of air capable Navy ships.
 - (U) Virtual Imaging System for Approach and Landing (VISUAL): VISUAL provides the Landing Signal Officer (LSO) with enhanced information during recovery operations in low visibility, day and night conditions.
 - (U) Advanced Arresting Gear (AAG): The AAG replaces the MK7 arresting gear, which has reached the limits of its operating capability. Upon completion of the AAG SDD phase, we will initiate three technology insertion efforts for the Electromagnetic Aircraft Launch System (EMALS) and the steam catapult:
 - 1) EMALS Advanced Control Technology Insertion: Introduction of sensorless control technologies, resulting in removal of a significant number of feedback sensors in the system; improving reliability, maintainability and availability.
 - 2) EMALS High Density Energy Storage: Introduction of solid state energy storage technology to replace the first generation rotary inertial systems. This will result in a 300 Long Ton reduction in ship system installed weight with a corresponding reduction in Height of Center of Gravity Above the Baseline, and enhanced reliability, availability and maintainability.
 - 3) Advanced Catapult Control System for Steam Catapults: Introduce EMALS control, prognostics and health monitoring technology into the steam catapult, providing a common operator interface, reduced maintenance and enhanced availability. This effort compliments the improvements introduced into the arresting gear through AAG.
- These initiatives are part of a pre-planned technology insertion roadmap and have been coordinated with PEO Carriers, who agrees that EMALS technology insertion should be pursued by NAVAIR in this program element.
- (U) Shipboard Aviation Data Management System Initiative: This initiative will use state-of-the-art information technology and decision support systems to automate the current manual intensive process in collecting and distributing information to enable aviation operations on board aircraft carriers to be accomplished in a more efficient and effective manner.
 - (U) Machine Vision Confirmation of Launch Bar Engagement: This program will develop a system based on machine vision technology to verify the proper hook up of aircraft to the catapult under all operating conditions.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604512N Shipboard Aviation Systems	PROJECT NUMBER AND NAME 2232 - CV Launch & Recovery Systems		
(U) B. Accomplishments/Planned Program				
VISUAL	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.758	0.000	0.000	0.000
RDT&E Articles Quantity	2			
VISUAL Completed fabrication of two (2) CV/CVN PRM units and conducted integration/ acceptance test efforts. Delivered two (2) CV/CVN PRM units. Completed environmental/EMI/R&M lab and conducted landbased/shipboard developmental testing. Completed CV/CVN system operational testing. Recieved production approval. Provided engineering and management support to the program.				
MWS	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.859	0.000	0.000	0.000
RDT&E Articles Quantity	2			
MWS Completed CDR and delivered two (2) MWS PRM. Completed developmental testing. Completed CV/CVN operational testing. Received MS C approval. Provided engineering and management support for the program.				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604512N Shipboard Aviation Systems	PROJECT NUMBER AND NAME 2232- CV Launch & Recovery Systems		
(U) B. Accomplishments/Planned Program				
AAG	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	15.508	28.340	33.029	31.490
RDT&E Articles Quantity		1		
AAG FY-04: Completed AoA and Technology Maturity Assessment. Prepared and received approval for Acquisition Strategy. Prepared and released RFP to Industry. Conducted source selection efforts. Prepared for and received milestone A approval and awarded two Technology Development (TD) contracts. Initiated system design efforts for AAG to include modeling, simulation and trade studies. Completed System Requirements Review. FY-05: Completed Preliminary Design and Integrated Baseline Reviews. Selected SDD phase contractor. Received MS B approval and awarded SDD contract. Completed initial Critical Design Reviews. Provided engineering and management support to the program. Purchased one AAG production representative test system to support developmental testing. FY-06: Complete remaining Critical Design Reviews. Fabricate test system hardware. Initiate test site upgrades. Provide engineering and management support to the program. FY-07: Deliver test systems to the NAVAIR Lakehurst Jet Car Test Site. Install test systems. Conduct Test Readiness Review. Initiate DT-B2. Provide engineering and management support to the program.				

R-1 SHOPPING LIST - Item No. 111

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 4 of 14)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																																	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604512N Shipboard Aviation Systems	PROJECT NUMBER AND NAME 2232 - CV Launch & Recovery Systems																																																																																		
<p>(U) C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"></th> <th style="text-align: right;">FY 2004</th> <th style="text-align: right;">FY 2005</th> <th style="text-align: right;">FY 2006</th> <th style="text-align: right;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>(U) Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Previous President's Budget:</td> <td style="text-align: right;">18.148</td> <td style="text-align: right;">28.631</td> <td style="text-align: right;">33.097</td> <td style="text-align: right;">31.486</td> </tr> <tr> <td>Current BES/President's Budget</td> <td style="text-align: right;">18.125</td> <td style="text-align: right;">28.340</td> <td style="text-align: right;">33.029</td> <td style="text-align: right;">31.490</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-0.023</td> <td style="text-align: right; border-top: 1px solid black;">-0.291</td> <td style="text-align: right; border-top: 1px solid black;">-0.068</td> <td style="text-align: right; border-top: 1px solid black;">0.004</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional program reductions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional undistributed reductions</td> <td></td> <td style="text-align: right;">-0.252</td> <td></td> <td></td> </tr> <tr> <td> Congressional rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> SBIR/STTR Transfer</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> OSD</td> <td></td> <td style="text-align: right;">-0.039</td> <td style="text-align: right;">-0.194</td> <td style="text-align: right;">-0.182</td> </tr> <tr> <td> Economic Assumptions</td> <td style="text-align: right;">-0.017</td> <td></td> <td style="text-align: right;">0.336</td> <td style="text-align: right;">0.402</td> </tr> <tr> <td> Reprogrammings</td> <td style="text-align: right;">-0.006</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Navy (FMB/Sponsor/NAVAIR)</td> <td></td> <td></td> <td style="text-align: right;">-0.210</td> <td style="text-align: right;">-0.216</td> </tr> <tr> <td> Congressional increases</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Subtotal</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.023</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.291</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.068</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">0.004</td> </tr> </tbody> </table> <p style="margin-top: 20px;">(U) Schedule:</p> <p>VISUAL program slipped due to technical challenges on CV unit. TECHEVAL scheduled for 2Q-4Q/03 was changed to 4Q/03-1Q/04; Operation Testing scheduled for 2Q/03 was changed to 1Q/04 and OPEVAL scheduled for 1Q/04 was changed to 1Q-2Q/04 . Delivery of CV EDM Shipboard Unit was delayed from 1Q/03-3Q/03. VISUAL L-Class development was cancelled due to cost overruns in the CV program.</p> <p>AAG program slipped due to minor delay in Source Selection process. This resulted in the following changes: Milestone A scheduled for 3Q/03 was changed to 4Q/03 and Contract Award scheduled for 3Q/03 was changed to 4Q/03. The following changes were made to test and evaluation milestones to more accurately reflect the program of record: Developmental testing scheduled for 3Q/07-4Q/07 has been changed to 3Q/07-1Q/08 and Development Test/Operational Assist scheduled for 1Q/09-4Q/09 to 2Q/09-3Q09</p> <p style="margin-top: 20px;">(U) Technical:</p>						FY 2004	FY 2005	FY 2006	FY 2007	(U) Funding:					Previous President's Budget:	18.148	28.631	33.097	31.486	Current BES/President's Budget	18.125	28.340	33.029	31.490	Total Adjustments	-0.023	-0.291	-0.068	0.004	Summary of Adjustments					Congressional program reductions					Congressional undistributed reductions		-0.252			Congressional rescissions					SBIR/STTR Transfer					OSD		-0.039	-0.194	-0.182	Economic Assumptions	-0.017		0.336	0.402	Reprogrammings	-0.006				Navy (FMB/Sponsor/NAVAIR)			-0.210	-0.216	Congressional increases					Subtotal	-0.023	-0.291	-0.068	0.004
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Previous President's Budget:	18.148	28.631	33.097	31.486																																																																																
Current BES/President's Budget	18.125	28.340	33.029	31.490																																																																																
Total Adjustments	-0.023	-0.291	-0.068	0.004																																																																																
Summary of Adjustments																																																																																				
Congressional program reductions																																																																																				
Congressional undistributed reductions		-0.252																																																																																		
Congressional rescissions																																																																																				
SBIR/STTR Transfer																																																																																				
OSD		-0.039	-0.194	-0.182																																																																																
Economic Assumptions	-0.017		0.336	0.402																																																																																
Reprogrammings	-0.006																																																																																			
Navy (FMB/Sponsor/NAVAIR)			-0.210	-0.216																																																																																
Congressional increases																																																																																				
Subtotal	-0.023	-0.291	-0.068	0.004																																																																																

R-1 SHOPPING LIST - Item No. 111

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 5 of 14)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604512N Shipboard Aviation Systems			PROJECT NUMBER AND NAME 2232 - CV Launch & Recovery Systems			

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
Line Item: 4216	20.098	21.146	27.042	29.604	30.941	31.221	117.037	103.595		Continuing
Aircraft Launch & Recovery Equip										

E. ACQUISITION STRATEGY:

MWS: The Navy prepared a performance specification and competitively awarded an IDIQ contract to cover SDD (CPIF) and production requirements (FFP).

VISUAL: The Navy prepared a performance specification and competitively awarded a cost plus incentive fee contract to develop/deliver PRMs, with fixed-price successive target production options.

AAG: The Navy competitively awarded two Cost Plus Fixed Fee (CPFF) TD phase contracts to develop the AAG. Upon completion of the Preliminary Design and Integrated Baseline Reviews, the Navy will award a single Cost Plus Award Fee (CPAF) option to one of the TD phase contracts for the SDD phase to develop and demonstrate a production representative AAG at the NAVAIR Lakehurst Jet Car and Runway Aircraft Landing test sites. After successful demonstration of the production representative AAG, the Navy will award Fixed Price Incentive (FPI) contracts for LRIP and full rate production quantities.

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604512N Shipboard Aviation Systems			PROJECT NUMBER AND NAME 2232 - CV Launch & Recovery Systems						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary H/W Development (AAG)	C/CPFF	Gen Atomics/SanDeigo,CA	10.844								10.844	10.844
Primary H/W Development (AAG)	C/CPFF	Northrop Grum/Sunnyvale,CA	10.846								10.846	10.846
Primary H/W Development (AAG)	C/CPAF	TBD		22.476	11/04	26.141	11/05	19.509	11/06	21.040	89.166	89.166
Primary H/W Development (AAG)	WX	NAWCAD, Lakehurst, NJ	1.305	1.137	11/04	2.955	11/05	3.512	11/06	Continuing	Continuing	
Primary H/W Development (VISUAL)	C/CPIF	DRS / Anaheim, CA	27.467								27.467	27.467
Primary H/W Development (MWS)	CPIF/FP	QPI / Fredricksburg, VA	3.874								3.874	3.874
Award Fees	C/CPAF	TBD		1.530	11/04	1.530	11/05	0.680	11/06	6.890	10.630	
Systems Engineering	WX	NAWCAD, Lakehurst, NJ	49.463	2.887	11/04	2.140	11/05			Continuing	Continuing	
(MWS/CREI/VISUAL/AAG/ALRCS)												
Systems Engineering (VISUAL/MWS)	WX	NAWCAD, Patuxent River, MD	0.307								0.307	
Systems Engineering (VISUAL)	WX	NSWC, Crane IN	1.800								1.800	
Subtotal Product Development			105.906	28.030		32.766		23.701		Continuing	Continuing	
Remarks: Award fee is 0% fixed and 12% of total contract.												
Development Support												
Software Development												
Integrated Logistics Support												
Configuration Management												
Technical Data												
Studies & Analyses												
GFE												
Subtotal Support												

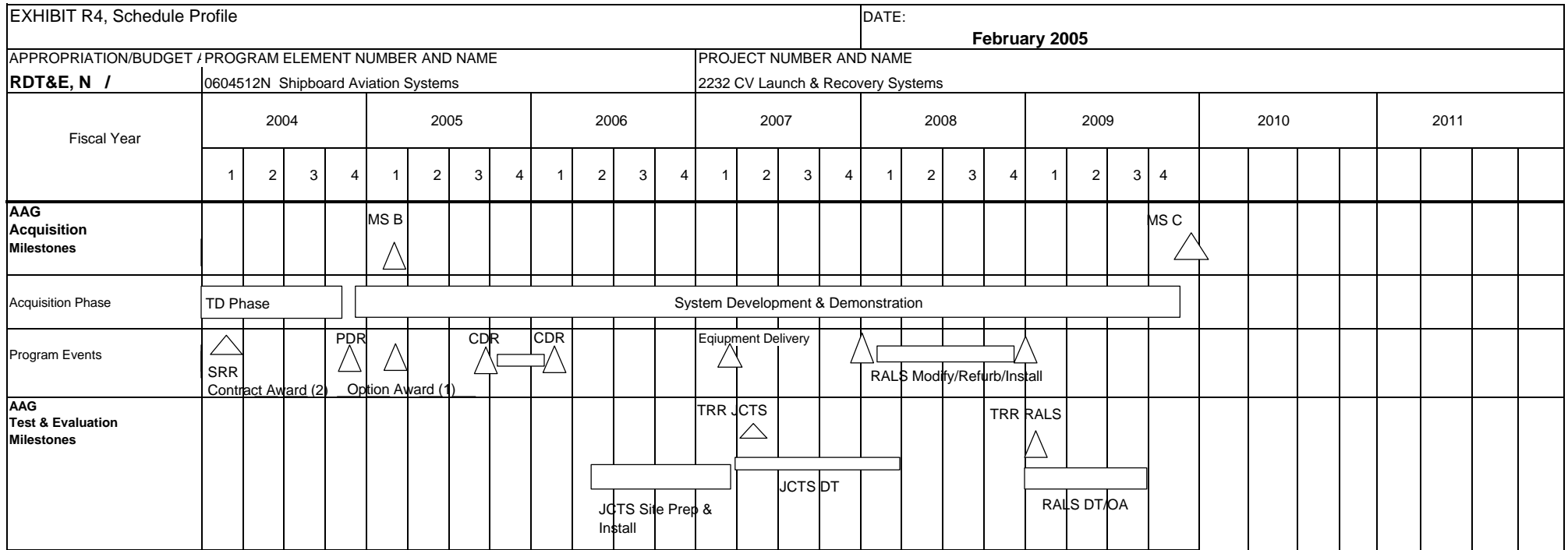
UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-5			PROGRAM ELEMENT 0604512N Shipboard Aviation Systems				PROJECT NUMBER AND NAME 2232 - CV Launch & Recovery Systems					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWCAD Lakehurst, NJ	0.920					6.000	11/06	32.000	38.920	
Operational Test & Evaluation	WX	NAWCAD Lakehurst, NJ	0.045								0.045	
Facility Testing (JCTS)	WX	NAWCAD Lakehurst, NJ						1.500	04/07	1.000	2.500	
AAG Award Fees	C/CPFF	Gen Atomics/SanDeigo,CA	0.562								0.562	0.562
AAG Award Fees	C/CPFF	Northrop Grum/Sunnyvale,CA	1.124								1.124	1.124
AAG Award Fees	C/CPAF	TBD								8.335	8.335	8.335
Subtotal T&E			2.651					7.500		41.335	51.486	
Program Management Support	RX	NAWCAD Patuxent Rv, MD		0.220	05/05	0.165	11/05	0.190	11/06	Continuing	Continuing	
Travel	WX	NAWCAD Patuxent Rv, MD		0.045	11/04	0.045	11/05	0.045	11/06	Continuing	Continuing	
Travel	WX	NAWCAD Lakehurst, NJ		0.045	11/04	0.053	11/05	0.054	11/06	Continuing	Continuing	
Subtotal Management				0.310		0.263		0.289		Continuing	Continuing	
Remarks:												
Total Cost			108.557	28.340		33.029		31.490		Continuing	Continuing	
Remarks:												

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R-1 SHOPPING LIST - Item No. 111

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 10 of 14)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604512N Shipboard Aviation Systems		PROJECT NUMBER AND NAME 9565 - Synthetic Material Arresting Cable				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		0.972						
RDT&E Articles Qty		1						

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

- (U) Synthetic Material Arresting Cable: This program will develop and test a new Synthetic Fiber Arresting Gear cable to replace the current steel cable material with a lighter weight material having a higher strength-to-weight ratio. A cable with higher strength-to-weight characteristics will improve peak to mean, which will help the arresting engine realize performance improvements in both the high and low energy levels.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604512N Shipboard Aviation Systems	PROJECT NUMBER AND NAME 9565 - Synthetic Material Arresting Cable																	
(U) B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="padding: 5px;">Synthetic Material Arresting Cable</td><td style="padding: 5px; text-align: center;">FY 04</td><td style="padding: 5px; text-align: center;">FY 05</td><td style="padding: 5px; text-align: center;">FY 06</td><td style="padding: 5px; text-align: center;">FY 07</td></tr><tr><td style="padding: 5px;">Accomplishments/Effort/Subtotal Cost</td><td colspan="4" style="padding: 5px; text-align: center;">0.972</td></tr><tr><td style="padding: 5px;">RDT&E Articles Quantity</td><td colspan="4" style="padding: 5px; text-align: center;">1</td></tr></table>					Synthetic Material Arresting Cable	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.972				RDT&E Articles Quantity	1			
Synthetic Material Arresting Cable	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.972																		
RDT&E Articles Quantity	1																		
<div style="border: 1px solid black; min-height: 300px; margin-top: 10px;"></div>																			

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604512N Shipboard Aviation Systems	PROJECT NUMBER AND NAME 9565 - Synthetic Material Arresting Cable		

(U) C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
(U) Funding:				
Previous President's Budget:		0.972		
Current BES/President's Budget				
Total Adjustments	0.000	0.972	0.000	0.000
Summary of Adjustments				
Congressional undistributed reductions		-0.028		
Congressional increases		1.000		
Subtotal	0.000	0.972	0.000	0.000

(U) Schedule:
Not applicable.

(U) Technical:
Not applicable.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005																																		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604512N Shipboard Aviation Systems			PROJECT NUMBER AND NAME 9565 - Synthetic Material Arresting Cable																																					
<p>D. OTHER PROGRAM FUNDING SUMMARY:</p> <table> <thead> <tr> <th><u>Line Item No. & Name</u></th> <th><u>FY 2004</u></th> <th><u>FY 2005</u></th> <th><u>FY 2006</u></th> <th><u>FY 2007</u></th> <th><u>FY 2008</u></th> <th><u>FY 2009</u></th> <th><u>FY 2010</u></th> <th><u>FY 2011</u></th> <th><u>To Complete</u></th> <th><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>Line Item: 4216</td> <td>20.098</td> <td>21.146</td> <td>27.042</td> <td>29.604</td> <td>30.941</td> <td>31.221</td> <td>117.037</td> <td>103.595</td> <td></td> <td></td> </tr> <tr> <td>Aircraft Launch & Recovery Equip</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Continuing</td> </tr> </tbody> </table> <p>E. ACQUISITION STRATEGY:</p> <p>NAWCAD Lakehurst awarded a contract to a cable manufacturer for various synthetic cables, which it will analyze and test for potential replacement of existing Arresting Gear steel cables. Additional strategy to fully qualify a replacement arresting cable will be determined upon identification of follow-on funding.</p>										<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>	Line Item: 4216	20.098	21.146	27.042	29.604	30.941	31.221	117.037	103.595			Aircraft Launch & Recovery Equip										Continuing
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>																																
Line Item: 4216	20.098	21.146	27.042	29.604	30.941	31.221	117.037	103.595																																		
Aircraft Launch & Recovery Equip										Continuing																																

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE:	
							FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE			
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-05					0604518N Combat Information Center Conversion			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	\$13.259	\$10.618	\$6.908	\$7.121	\$6.667	\$4.710	\$4.732	\$4.754
3094 / USW-Decision Support System (USW-DSS)	\$10.103	\$8.146	\$6.908	\$7.121	\$6.667	\$4.710	\$4.732	\$4.754
9566 / Integrated Tactical Command & Control Cell	\$0.000	\$2.472	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
1604 / NTDS Software Improvement	\$3.156	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
<p>The objective of this Program Element (PE), under Project 3094, is to integrate several current Undersea Warfare (USW) developmental technologies covered under Global Command and Control System - Maritime (GCCS-M) Operational Requirements Document (ORD) 510-06-99 (signed 02/99) to produce an integrated Undersea Warfare-Decision Support System (USW-DSS) (formerly named CUP - Common Undersea Picture; project title has been changed accordingly) for use by Carrier Strike Group (CSG) and Expeditionary Strike Group (ESG) air, surface, submarine, and surveillance USW and MIW assets. A USW-DSS Peer Review Group will select technologies to be incorporated into a build-test-build process to develop a net-centric USW Capability. Significant improvements will be made to USW multi-platform mission planning and evaluation, vulnerability assessment, situational awareness, collaborative communications, prosecution and execution, training, Operator Machine Interface (OMI), and operational reconstruction and analysis. USW-DSS will align with and build upon common architectures, including GCCS-M, incorporating "Best of Best" applications into a common Sea Combat Commander/Theater Commander Toolset. Successive software builds will be delivered to the GCCS-M Program of Record for production and fleet fielding.</p>								
<p>This PE, under Project 9566, (established via FY 2005 ITC3 Congressional Add) is to develop the Integrated Tactical Command and Control Console (ITC3), the horizontal display variant of the new family of data processing and display components in the Future Common Display and Multi-Modal Workstation family of products. The ITC3 is the first data processing and display system designed from the deck plate up in accordance with Open Architecture Computing Environment and Human Systems Integration standards. ITC3 combines the processing plant and the horizontal display tier into a single element, enabled by commercial off-the-shelf (COTS) technology, resulting in a reduction in space and power and weight requirements.</p>								
<p>This PE, under Project 1604, will fund the Advanced Combat Direction System (ACDS) Block 0 and Shipboard Gridlock System/Auto Correlation (SGS/AC) Baseline 5.1 computer program upgrade. In FY04, this Project will complete computer program development upgrades to SGS/AC Baseline 5.1 and ACDS Block 0 for Amphibious class ships and complete systems integration efforts to test between ACDS Block 0 and SGS/AC Baseline 5.1. In FY04, this Project will also complete SSDS MK2 systems engineering to finalize Interoperability Change Proposal (ICP) and Engineering Change Proposal (ECP) and start development. Final test and deliveries in FY05 and outyears are programmed under PE 0603879N, Project 3031.</p>								

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 1 of 10)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05		PROGRAM ELEMENT NUMBER AND NAME 0604518N Combat Information Center Conversion			PROJECT NUMBER AND NAME 3094 / USW-Decision Support System (USW-DSS)			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	10.103	8.146	6.908	7.121	6.667	4.710	4.732	4.754
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Project 3094 will leverage technologies from several current USW development efforts and developers' tool sets through a peer-reviewed technology selection and evolutionary development build-test-build process to develop an Undersea Warfare-Decision Support System (USW-DSS) capability for Carrier Strike Group (CSG) and Expeditionary Strike Group (ESG) Surface, Submarine, Air, and support assets. Significant improvements will be made to USW multi-platform mission planning and evaluation, vulnerability assessment, situational awareness, collaborative communications, prosecution and execution, training, OMI, and operational reconstruction and analysis. USW-DSS will align and build upon common architectures, including GCCS-M, incorporating the "Best of Best" applications into a common Sea Combat Commander/Theater Commander Toolset for installation on supporting shore nodes, one CSG in FY 2004, and two CSGs/ESGs per year starting in FY 2006.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05	PROGRAM ELEMENT NUMBER AND NAME 0604518N Combat Information Center Conversion	PROJECT NUMBER AND NAME 3094 / USW-Decision Support System (USW-DSS)																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%; text-align: center;">FY 04</td> <td style="width: 15%; text-align: center;">FY 05</td> <td style="width: 15%; text-align: center;">FY 06</td> <td style="width: 15%; text-align: center;">FY 07</td> </tr> <tr> <td>USW-DSS GCCS-M, DII-COE Integration</td> <td style="text-align: center;">1.230</td> <td style="text-align: center;">1.274</td> <td style="text-align: center;">1.356</td> <td style="text-align: center;">1.356</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> Defense Information Infrastructure-Common Operating Environment (DII-COE), Global Command and Control System - Maritime (GCCS-M) Licenses and integration; Command and Control integration testing; network and security testing and certifications. </div>						FY 04	FY 05	FY 06	FY 07	USW-DSS GCCS-M, DII-COE Integration	1.230	1.274	1.356	1.356	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
USW-DSS GCCS-M, DII-COE Integration	1.230	1.274	1.356	1.356															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%; text-align: center;">FY 04</td> <td style="width: 15%; text-align: center;">FY 05</td> <td style="width: 15%; text-align: center;">FY 06</td> <td style="width: 15%; text-align: center;">FY 07</td> </tr> <tr> <td>USW-DSS Requirements Analysis</td> <td style="text-align: center;">1.652</td> <td style="text-align: center;">1.778</td> <td style="text-align: center;">1.778</td> <td style="text-align: center;">1.778</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> Requirements analysis and design; net-centric USW metrics analysis; operational context analysis; functional analysis, interface design, and system specifications supporting mission planning and evaluation, vulnerability assessment, situational awareness, collaborative communications, prosecution and execution, training, Operator Machine Interface (OMI) and operational reconstruction and analysis. </div>						FY 04	FY 05	FY 06	FY 07	USW-DSS Requirements Analysis	1.652	1.778	1.778	1.778	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
USW-DSS Requirements Analysis	1.652	1.778	1.778	1.778															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%; text-align: center;">FY 04</td> <td style="width: 15%; text-align: center;">FY 05</td> <td style="width: 15%; text-align: center;">FY 06</td> <td style="width: 15%; text-align: center;">FY 07</td> </tr> <tr> <td>USW-DSS TDA Support</td> <td style="text-align: center;">2.147</td> <td style="text-align: center;">2.314</td> <td style="text-align: center;">2.314</td> <td style="text-align: center;">2.314</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> Technical Design Agent support; Peer Review Group technology developments and successive Engineering Development Model Build software development and modification with in-lab test bed; Test and Evaluation planning and support of Developmental Testing and early operational assessment. </div>						FY 04	FY 05	FY 06	FY 07	USW-DSS TDA Support	2.147	2.314	2.314	2.314	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
USW-DSS TDA Support	2.147	2.314	2.314	2.314															
RDT&E Articles Quantity																			

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05	PROGRAM ELEMENT NUMBER AND NAME 0604518N Combat Information Center Conversion	PROJECT NUMBER AND NAME 3094 / USW-Decision Support System (USW-DSS)		
B. Accomplishments/Planned Program (Cont.)				
	FY 04	FY 05	FY 06	FY 07
USW-DSS Carrier Integration	1.036	0.969	0.000	0.000
RDT&E Articles Quantity				
<div style="border: 1px solid black; height: 60px; margin-top: 10px;"></div>				
	FY 04	FY 05	FY 06	FY 07
USW-DSS Build Platform Integration/Application Dev	4.038	1.811	1.460	1.673
RDT&E Articles Quantity				
<div style="border: 1px solid black; height: 60px; margin-top: 10px;"></div>				
<p>FY04/05 - Complete development of prototype Build 0 for use as temporary installation and support at-sea testing and exercises for one CSG in FY04 (STENNIS) and two CSGs in FY05 (Forward Deployed Naval Forces). FY04/05/06 - Begin Build 1 development and integration and OMI (Operator-Machine Interface) design; incorporate Peer Review Group technology developments into the build-test-build process; integrate air, surface, submarine and surveillance and MIW assets; develop evolutionary embedded training; provide Fleet liaison support. Coordinate and conduct FY05 at-Sea testing and deliver to GCCS-M for production build in FY 2006. FY05/06/07 - Begin Build 2 development and integration. Complete Build 2 development in FY07, and coordinate and conduct FY07 at-sea testing.</p>				
	FY 04	FY 05	FY 06	FY 07
RDT&E Articles Quantity				
<div style="border: 1px solid black; height: 60px; margin-top: 10px;"></div>				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05	PROGRAM ELEMENT NUMBER AND NAME 0604518N Combat Information Center Conversion	PROJECT NUMBER AND NAME 3094 / USW-Decision Support System (USW-DSS)		

C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
Funding:				
Previous FY 2005 President's Budget:	18.045	8.228	6.920	7.088
Current FY 2006/2007 President's Budget:	10.103	8.146	6.908	7.121
Total Adjustments	-7.942	-0.082	-0.012	0.033
Summary of Adjustments				
Congressional program reductions	-8.000			
Congressional undistributed reductions		-0.073		
Congressional rescissions	-0.111			
SBIR/STTR Transfer	-0.151			
Economic Assumptions	-0.005			
Other Navy/OSD Adjustments	0.325	-0.009	-0.012	0.033
Subtotal	-7.942	-0.082	-0.012	0.033

Schedule:

None

Technical:

None

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: FEBRUARY 2005			
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-05			PROGRAM ELEMENT NUMBER AND NAME 0604518N Combat Information Center Conversion			PROJECT NUMBER AND NAME 3094 / USW-Decision Support System (USW-DSS)				

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
OPN BLI 2176/ USW Support Equipment (Grand Total BLI)	10.805	16.514	13.962	10.838	12.051	11.771	12.658	13.254	Continuing	Continuing
OPN BLI 2176/ USW Support Equipment	0.000	7.921	8.156	5.904	6.441	5.507	5.727	6.156	Continuing	Continuing
Specific Sub Procurement Item: Space Information Command and Control Programs, Undersea Warfare-Decision Support System (USW-DSS)										

E. ACQUISITION STRATEGY:

- Prime contractor award planned 1Q FY 2005.
- Successive Builds to be developed, tested and delivered to GCCS-M program of record for production and Fleet fielding.

F. MAJOR PERFORMERS:

- Johns Hopkins University Applied Physics Laboratory (JHU/APL), MD - USW-Decision Support System (USW-DSS) Technical Design Agent and Test & Evaluation support
- Naval Air Systems Command, Patuxent River, MD -USW-Decision Support System (USW-DSS) interface design and documentation, software management, test & evaluation
- Naval Sea Systems Command, Carderock, MD - USW-Decision Support System (USW-DSS)CUP interface design and documentation, software management, test & evaluation
- Naval Sea Systems Command, Dahlgren, VA - USW-Decision Support System (USW-DSS) requirements analysis, ship integration and mission planning support
- Naval Sea Systems Command, Keyport, WA - USW-Decision Support System (USW-DSS) Carrier integration and track management
- Naval Sea Systems Command, Newport, RI - USW-Decision Support System (USW-DSS) Technical Design Agent support; submarine integration.
- Space and Naval Warfare Systems Command, San Diego, CA - Defense Information Infrastructure-Common Operating Environment (DII-COE), GCCS-M, Command and Control (C2) collaboration tools, network and security certifications

R-1 SHOPPING LIST - Item No. 112

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: FEBRUARY 2005						
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-05			0604518N Combat Information Center Conversion			3094 / USW-Decision Support System (USW-DSS)								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary H/W & S/W Development	C/CPFF	JHU/APL, MD	0.000	0.870	12/03	0.665	12/04	0.638	12/05	0.638	12/06	Continuing	Continuing	
Primary H/W & S/W Development	WX	NAVAIR Patuxent River, MD	0.000	0.150	01/04	1.430	10/04	0.147	10/05	0.147	10/06	Continuing	Continuing	
Primary H/W & S/W Development	WX	NAVSEA Carderock, MD	0.000	0.916	11/03	0.867	10/04	0.490	10/05	0.490	10/06	Continuing	Continuing	
Primary H/W & S/W Development	WX	NAVSEA Dahlgren, VA	0.000	1.129	10/03	0.275	10/04	0.607	10/05	0.607	10/06	Continuing	Continuing	
Primary H/W & S/W Development	WX	NAVSEA Keyport, WA	0.000	0.299	11/03	0.243	10/04	0.248	10/05	0.248	10/06	Continuing	Continuing	
Primary H/W & S/W Development	WX	NAVSEA Newport, RI	0.000	1.130	12/03	0.272	10/04	0.921	10/05	0.921	10/06	Continuing	Continuing	
Primary H/W & S/W Development	WX	SPAWAR San Diego, CA	0.000	0.500	12/03	2.010	10/04	0.391	10/05	0.391	10/06	Continuing	Continuing	
Primary H/W & S/W Development	C/CPFF	PROGENY, CA	0.000	2.143	11/03	0.522	11/04	1.800	11/05	0.000		0.000	4.465	
Primary H/W & S/W Development	C/CPFF	TBD, TBD	0.000					0.500	07/06	2.300	11/06	Continuing	Continuing	
Primary H/W & S/W Development	Var.	Var.	0.000	2.557	11/03	1.012	10/04	0.446	10/05	0.659	10/06	Continuing	Continuing	
Subtotal Product Development			0.000	9.693		7.296		6.188		6.401		Continuing	Continuing	
Remarks:														
Subtotal Support			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														

R-1 SHOPPING LIST - Item No. 112

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: FEBRUARY 2005				
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-05			PROGRAM ELEMENT 0604518N Combat Information Center Conversion			PROJECT NUMBER AND NAME 3094 / USW-Decision Support System (USW-DSS)								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
At-Sea Test & Evaluation	Var.	Var.	0.000			0.400	10/04	0.300	10/05	0.300	10/06	Continuing	Continuing	
Subtotal T&E			0.000	0.000		0.400		0.300		0.300		Continuing	Continuing	
Remarks:														
Program Management Support	Var.	Var.	0.000	0.410	12/03	0.450	11/04	0.420	10/05	0.420	10/06	Continuing	Continuing	
Subtotal Management			0.000	0.410		0.450		0.420		0.420		Continuing	Continuing	
Remarks:														
Total Cost			0.000	10.103		8.146		6.908		7.121		Continuing	Continuing	
Remarks:														

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME												
RDT&E, N / BA-05										0604518N Combat Information Center Conversion										3094 / USW-Decision Support System (USW-DSS)												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition/Contract Milestones/Reviews																																
USW-DSS prototype Build 0 (Temporary Installs - CSGs)																																
USW-DSS System Development (Builds 1/2/3/4)																																
Test & Evaluation Milestones																																
USW-DSS At-Sea Tests (Builds 1/2/3/4)																																
Production Milestones																																
USW-DSS Software Delivery to GCCS-M for Production Build (Builds 1/2/3/4)																																
Deliveries - OPN BLI 2176 (N61 USW-DSS)																																

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R-1 SHOPPING LIST - Item No. 112

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 10 of 10)

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					R-1 ITEM NOMENCLATURE 0604558N/VIRGINIA Class Design Development			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	141.459	171.205	155.807	139.177	142.810	116.362	131.053	154.614
1947/VIRGINIA Class HM&E Development	72.328	109.984	110.322	96.373	103.182	85.729	93.967	111.351
1950/VIRGINIA Class Combat Systems Dev	38.332	49.426	42.871	40.130	36.879	27.802	34.197	40.316
2887/SSN Combat Sys Tech Insert/Refresh	10.613	5.616	0.000	0.000	0.000	0.000	0.000	0.000
3062/Submarine Multi Mission Team Trainer	5.755	3.704	2.614	2.674	2.749	2.831	2.889	2.947
9386/SSN Development - SBIR Phase III Research	4.802	2.475	0.000	0.000	0.000	0.000	0.000	0.000
9387/VIRGINIA Class SSN Development	9.629	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Quantity of RDT&E Articles								
Defense Emergency Response Funds (DERF): NOT APPLICABLE								
<p>A. (U) Mission Description and Budget Item Justification: The U.S. Navy must maintain a submarine fleet that is of sufficient capability and numbers to defend American interests. The VIRGINIA Class Submarine, formerly the New Attack Submarine (New SSN), is being designed to fulfill this need. It will counter the potential threats of the next century in a multi- mission capable submarine that has the ability to provide covert, sustained combat presence in denied waters. The primary goal of the program is to develop an affordable yet capable submarine by evaluating a broad range of system and technology alternatives, and pursuing cost reduction, producibility improvement, and technical risk management. This Program Element (PE) provides the technology, prototype components, and systems engineering needed to design and construct the VIRGINIA Class Submarine and build and its Command, Control, Communications, and Intelligence (C3I) System. This PE directly supports the following VIRGINIA Class Submarine missions: (1) covert strike warfare; (2) anti-submarine warfare; (3) covert intelligence collection/surveillance, indication and warning, and electronic warfare; (4) anti-surface ship warfare; (5) special warfare; (6) mine warfare; and (7) battle group support.</p>								
<p>(U) Project 2887: The Congressional plus-up is for the Multipurpose Processor (MPP) SBIR follow-on for Technology Insertion and refresh for VIRGINIA SSN Combat System.</p>								
<p>(U) Project 3062: The Submarine Multi-Mission Team Trainer (SMMTT) program replaces the proprietary mainframe computer system by re-hosting functions on industry standard Local Area Network (LAN) workstations. The mainframes can no longer be upgraded due to service life. The SMMTT modification applies to both the Combat Control System (CCS) trainers and the Acoustic trainers and will occur in three distinct phases. SMMTT Phase 1 and Phase 2 were funded in OPN BLI 5661 to complete the trainer-unique software offload and enables further enhancements. SMMTT Phase 3, funded in this RDT&E line will provide the architectural foundation to replace all MIL Standard hardware with commercial emulation hardware, and rehost existing proprietary based software into COTS software systems, therefore enabling platform independence and wide area network capability. The use of open architecture trainer systems allows for the continuous growth of functional flexibility, ultimately leading to employment training conducted for any submarine combat system.</p>								
<p>(U) Project 9386: The Congressional plus-up is for VIRGINIA Class SSN Development SBIR Phase III Research to establish and extend a Technology Insertion program.</p>								
<p>(U) Project 9387: The Congressional plus-up is for VIRGINIA Class SSN Development of Navigation Upgrades and critical HM&E technology development.</p>								

R-1 SHOPPING LIST - Item No. 113

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604558N/VIRGINIA Class Design Development				PROJECT NUMBER AND NAME 1947/VIRGINIA Class HM&E DEVELOPMENT			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	72.328	109.984	110.322	96.373	103.182	85.729	93.967	111.351
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

A (U) Mission Description and Budget Item Justification: (U) This project encompasses all the ship system development efforts for the VIRGINIA Class Submarine and the Technology Insertion Program for reducing cost and upgrading performance of future hulls by virtue of improvements in ship and combat systems. Technology developments, training, and logistics for developmental items, and VIRGINIA Class test & evaluation are included. This project is essential to achieve balanced platform capability, affordability, and flexibility in a low rate production environment. The thrust of these efforts will be to develop and apply multiple advanced system technologies which are integrated into the design of the VIRGINIA Class Submarine. New technologies are being transitioned from industry and government research and development programs where doing so offers substantial performance improvement and/or affordability payoffs. Transition opportunities include those from the Defense Advanced Research Projects Agency (DARPA) Sensors and Payloads program.

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, 2 of 28)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604558N/VIRGINIA Class Design Development	PROJECT NUMBER AND NAME 1947/VIRGINIA Class HM&E DEVELOPMENT		
B. Accomplishments/Planned Program				
	FY04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	33.613	47.468	38.591	29.106
RDT&E Articles Quantity				
<p>HM&E DEVELOPMENT</p> <p><u>FY04 Accomplishments:</u> Continued design, manufacturing, and qualification testing of prototype technologies and components such as: ship service turbine generator (SSTG), weapons stowage and handling systems; electromagnetic signature reduction; and ship control system block upgrades. Complete Shock Qualification of Air and Nitrogen Flasks. Continued shock qualification of weapons handling module and other major components. Continued system verification studies, tests, and analyses in support of ship design including signature, hydrodynamics, materials, and survivability analyses and tests. Completed development of Diesel Generator. Provided Integrated Product and Process Development (IPPD) (Design/Build) team support at shipyards, Navy laboratories and in-house. Supported ship design and construction efforts with engineering evaluations and ship integration assessments for emergent ship design and systems development issues. Develop concept for Multi-Mission Module (MMM) for adding future payloads to VIRGINIA.</p> <p><u>FY05 Plan:</u> Continue design, manufacturing, and qualification testing of prototype technologies and components such as: weapons stowage and handling systems and ship service turbine Generator (SSTG) and ship control system block upgrades. Complete shock qualification of weapons handling module initiate shock qualification of torpedo tube and continue shock qualification of other major components. Continue system verification studies, tests, and analyses in support of ship design including signature, hydrodynamics, materials, and survivability analyses and tests. Provide Integrated Product and Process Development (IPPD) (Design/Build) team support at shipyards, Navy laboratories and in-house. Support ship design and construction efforts with engineering evaluations and ship integration assessments for emergent ship design and systems development issues. Initiation of development of the Conformal Acoustic Velocity Sensor (CAVES) large Wide Aperture Array (LWAA). Resolve propulsor manufacturing and 'change out' scheduling problems. Remove SHT Test Patch. Continue ship control station block upgrades. Continue integration of improved main seawater system component. Initiate preliminary design for Multi-Mission Module. Execute feasibility demonstrations for Large Aperture Bow (LAB) Array and Automation for Reduced Manning Congressional Plus-Ups.</p> <p><u>FY06 Plan:</u> Continue design, manufacturing, and qualification testing of prototype technologies and components such as: ship service turbine generator (SSTG). Continue system verification studies, tests, and analyses in support of ship design including signature, hydrodynamics, materials, and survivability analyses and tests. Provide Integrated Product and Process Development (IPPD) (Design/Build) team support at shipyards, Navy laboratories and in-house. Support ship design and construction efforts with engineering evaluations and ship integration assessments for emergent ship design and systems development issues. Complete shock qualificaion of torpedo tube system. Initiate shock qualification of the large hull penetrators and incompletely qualified SEAWOLF components. Technology Insertions include (1) continuation of development of the composite advanced sail and (2) Conformal Acoustic Velocity Sensor (CAVES) Large Wide Aperture Array (LWAA). Continue design integration of improved main seawater system components.</p> <p><u>FY07 Plan:</u> Complete shock qualification of air induction valve, diesel exhaust valve, hatch operators, and large penetrators. Continue development of (1) the Advanced Sail (including 1/4 scale evaluation on the large scale model (LSV) CUTTHROAT and (2) CAVES Large WAA. Resolve Sea Trial Issues. Complete design integration of improved main seawater components.</p>				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604558N/VIRGINIA Class Design Development	PROJECT NUMBER AND NAME 1947/VIRGINIA Class HM&E DEVELOPMENT		

B. Accomplishments/Planned Program (continued)

	FY04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	6.518	5.075	4.378	4.347
RDT&E Articles Quantity				

ADMINISTRATIVE/ENVIRONMENTAL

FY04 Accomplishments: Continued analyses and evaluations relating to force effectiveness assessment and component performance tradeoffs. Maintained cost based approach to VIRGINIA Class submarine construction through use of Integrated Product and Process Development (IPPD) concurrent engineering processes. Continued coordination of VIRGINIA Class submarine specification at the shipbuilder. Continued cost estimating and validation of cost reduction ideas for VIRGINIA Class submarine overall design development. Continued environmental compliance and pollution prevention efforts.

FY05 - FY07 Plans: Continue analyses and evaluations relating to force effectiveness assessment and component performance tradeoffs. Maintain cost based approach to VIRGINIA Class submarine construction through use of IPPD's concurrent engineering processes. Continue coordination of VIRGINIA Class submarine specification at the shipbuilder. Continue cost estimating and validation of cost reduction ideas for VIRGINIA Class submarine overall design development.

FY06 Plan is to complete environmental compliance and pollution prevention under VIRGINIA design efforts.

	FY04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	3.140	1.659	0.175	0.075
RDT&E Articles Quantity				

LOGISTIC SUPPORT

FY04 Accomplishments: Provided government technical support services to the Design Yard for On Board Team Trainer (OBTT) MC developmental efforts. Delivered the VIRGINIA Ship Control Operator Trainer with Block 1 to Naval Submarine School, Groton. Awarded the Diesel Front Panel Simulator Contract to EB. Completed and Delivered the Weapons Launch Console Team Trainer (WLCTT) to Naval Submarine School, Groton. Continued the development of the VIRGINIA ship Control Maintenance Trainer with Block 0.

FY05 - FY07 Plans: Continue providing government technical support services to the Design Yard for OBTT MC development efforts. Deliver the Diesel Front Panel Simulator to Naval Submarine School, Groton. Deliver the VIRGINIA Ship Control Maintenance Trainer with Block 1. Update OBTT MC Electronic Tutorial.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604558N/VIRGINIA Class Design Development	PROJECT NUMBER AND NAME 1947/VIRGINIA Class HM&E DEVELOPMENT																
B. Accomplishments/Planned Program (Cont.) <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>29.057</td> <td>55.782</td> <td>67.178</td> <td>62.845</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>TEST AND EVALUATION</p> <p>FY04 Accomplishments: Conducted shipbuilder at-sea trials, and dockside testing. Prepared test plans and schedules associated with developmental testing: Hydrodynamic Performance/Ship Control trials, Weapons System Accuracy Trials (WSAT), Launchers Trials Testing, Acoustic Trials, Lockout Trunk testing and Total Ship Survivability Trials. Continued development of the test plans and schedules associated with the dedicated TECHEVAL period. Continued the development of the Test and Evaluation Master Plan (TEMP), TEMP Rev D was signed this FY, have begun work on TEMP Rev E. Continued development of the Vulnerability Analysis Report (VAR). Continued development of the total ship test plan in support of DT/OT-IIA-IIF.</p> <p>FY05 Plan: Conduct Hydrodynamic/ Ship Control trials, WSAT, Launcher Trials, Acoustic Trials, Lockout Trunk Testing, C3I Testing, and one of four TSST drills. Continue planning for TECHEVAL and OPEVAL. Continue TEMP Rev E development. (Funding for the FY05 Full Ship Shock Test is included in the budget but work has been temporarily deferred pending decisions on test execution.)</p> <p>FY06 Plan: Conduct Full Ship Shock Test on SSN775. Conduct Total Ship Survivability Test on SSN775. Continue planning for TECHEVAL/OPEVAL including development of detailed schedules and test plans for the events. Obtain final concurrence on TEMP Rev E.</p> <p>FY07 Plan: Begin conduct of Tech EVAL. Continue OPEVAL Planning. Conduct planning for DDS Testing.</p> </div>					FY04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	29.057	55.782	67.178	62.845	RDT&E Articles Quantity				
	FY04	FY 05	FY 06	FY 07														
Accomplishments/Effort/Subtotal Cost	29.057	55.782	67.178	62.845														
RDT&E Articles Quantity																		

R-1 SHOPPING LIST - Item No. 113

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																													
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604558N/VIRGINIA Class Design Development	PROJECT NUMBER AND NAME 1947/VIRGINIA Class HM&E DEVELOPMENT																																																														
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;"></th> <th style="text-align: right; width: 10%;">FY 2004</th> <th style="text-align: right; width: 10%;">FY 2005</th> <th style="text-align: right; width: 10%;">FY2006</th> <th style="text-align: right; width: 10%;">FY2007</th> </tr> </thead> <tbody> <tr> <td>Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY05 President's Budget:</td> <td style="text-align: right;">71.495</td> <td style="text-align: right;">99.719</td> <td style="text-align: right;">110.649</td> <td style="text-align: right;">96.006</td> </tr> <tr> <td>FY06 President's Budget:</td> <td style="text-align: right;">72.328</td> <td style="text-align: right;">109.984</td> <td style="text-align: right;">110.322</td> <td style="text-align: right;">96.373</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right;">0.833</td> <td style="text-align: right;">10.265</td> <td style="text-align: right;">-0.327</td> <td style="text-align: right;">0.367</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;"> <p>Summary of Adjustments</p> <table style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="width: 40%;">Execution Realignments & Cancelled Accounts</td> <td style="text-align: right;">0.833</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Programmatic/Other Adjustments</td> <td></td> <td style="text-align: right;">12.000</td> <td></td> <td></td> </tr> <tr> <td>Various (SBIR & Misc)</td> <td></td> <td style="text-align: right;">-1.235</td> <td style="text-align: right;">-0.327</td> <td style="text-align: right;">0.367</td> </tr> <tr> <td></td> <td style="text-align: right;">0.833</td> <td style="text-align: right;">10.765</td> <td style="text-align: right;">-0.327</td> <td style="text-align: right;">0.367</td> </tr> </tbody> </table> </td> </tr> <tr> <td colspan="5" style="padding-top: 10px;"> <p>Schedule:</p> <p style="margin-left: 20px;">"Not Applicable"</p> </td> </tr> <tr> <td colspan="5" style="padding-top: 10px;"> <p>Technical:</p> <p style="margin-left: 20px;">"Not Applicable."</p> </td> </tr> </tbody> </table>						FY 2004	FY 2005	FY2006	FY2007	Funding:					FY05 President's Budget:	71.495	99.719	110.649	96.006	FY06 President's Budget:	72.328	109.984	110.322	96.373	Total Adjustments	0.833	10.265	-0.327	0.367	<p>Summary of Adjustments</p> <table style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="width: 40%;">Execution Realignments & Cancelled Accounts</td> <td style="text-align: right;">0.833</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Programmatic/Other Adjustments</td> <td></td> <td style="text-align: right;">12.000</td> <td></td> <td></td> </tr> <tr> <td>Various (SBIR & Misc)</td> <td></td> <td style="text-align: right;">-1.235</td> <td style="text-align: right;">-0.327</td> <td style="text-align: right;">0.367</td> </tr> <tr> <td></td> <td style="text-align: right;">0.833</td> <td style="text-align: right;">10.765</td> <td style="text-align: right;">-0.327</td> <td style="text-align: right;">0.367</td> </tr> </tbody> </table>					Execution Realignments & Cancelled Accounts	0.833				Programmatic/Other Adjustments		12.000			Various (SBIR & Misc)		-1.235	-0.327	0.367		0.833	10.765	-0.327	0.367	<p>Schedule:</p> <p style="margin-left: 20px;">"Not Applicable"</p>					<p>Technical:</p> <p style="margin-left: 20px;">"Not Applicable."</p>				
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FY06 President's Budget:	72.328	109.984	110.322	96.373																																																												
Total Adjustments	0.833	10.265	-0.327	0.367																																																												
<p>Summary of Adjustments</p> <table style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="width: 40%;">Execution Realignments & Cancelled Accounts</td> <td style="text-align: right;">0.833</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Programmatic/Other Adjustments</td> <td></td> <td style="text-align: right;">12.000</td> <td></td> <td></td> </tr> <tr> <td>Various (SBIR & Misc)</td> <td></td> <td style="text-align: right;">-1.235</td> <td style="text-align: right;">-0.327</td> <td style="text-align: right;">0.367</td> </tr> <tr> <td></td> <td style="text-align: right;">0.833</td> <td style="text-align: right;">10.765</td> <td style="text-align: right;">-0.327</td> <td style="text-align: right;">0.367</td> </tr> </tbody> </table>					Execution Realignments & Cancelled Accounts	0.833				Programmatic/Other Adjustments		12.000			Various (SBIR & Misc)		-1.235	-0.327	0.367		0.833	10.765	-0.327	0.367																																								
Execution Realignments & Cancelled Accounts	0.833																																																															
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Various (SBIR & Misc)		-1.235	-0.327	0.367																																																												
	0.833	10.765	-0.327	0.367																																																												
<p>Schedule:</p> <p style="margin-left: 20px;">"Not Applicable"</p>																																																																
<p>Technical:</p> <p style="margin-left: 20px;">"Not Applicable."</p>																																																																

R-1 SHOPPING LIST - Item No. 113

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604558N/VIRGINIA Class Design Development			PROJECT NUMBER AND NAME 1947/VIRGINIA Class HM&E DEVELOPMENT				

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
SCN Line 201300 PE: 0203281N	2698.3	2572.4	2401.5	2413.9	2528.5	3589.1	3780.4	3790.3	48389.5	84993.1
SCN Line 201310 PE: 0203281N	0	0	0	0	0	0	0	0	0	589.2
O&M/N BA-2 1B2B PE: 0204283N	14.4	18.6	24.6	38.2	54.6	67.2	65.6	68.3	cont.	cont.
OPN BA-8 Line Item 094200	0	57.8	175.6	192.1	182.4	209.7	223.0	232.2	cont.	cont.
(U) Related RDT&E (U) PE 0603561N (Advanced Submarine System Development) (U) PE 0603570N (Advanced Nuclear Power Systems) (U) PE 0602121N (Surface Ship Technology)										

E. ACQUISITION STRATEGY: *

The VIRGINIA Class Submarine Program has implemented Integrated Product and Process Development (IPPD). The traditional distinct phasing of the design process has been replaced with the continuous concurrent engineering IPPD process. The IPPD approach has facilitated a smoother transition from design to manufacturing, with Design expected to complete this year, and has reduced the number of changes typically encountered during construction of the lead and early follow-on ships. In September 1997, Congress passed a law allowing Electric Boat (EB) and Northrop Grumman Newport News (NGNN) to team for production of the first four VIRGINIA Class Submarines. Under the teaming agreement, EB remained the design yard for the VIRGINIA Class Submarine and NGNN became a part of the IPPD process. The Program Office awarded a multi-year contract for the FY04-08 ships. Future focus will be continuance of Logistics product development, Technology Insertion and testing for the VIRGINIA Class submarines.

F. MAJOR PERFORMERS: **

1. Electric Boat Corporation, Groton CT - Virginia Class Lead Shipbuilder - Contract Award Date 28 Sept. 1998.
2. Naval Surface Warfare Center, Carderock Division, Bethesda, MD - Research, Development, Test & Evaluation Laboratory
3. Naval Undersea Warfare Center, Newport, RI - Research, Development, Test & Evaluation Laboratory

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CLASSIFICATION:

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604558N/VIRGINIA Class Design Development			1947/VIRGINIA Class HM&E DEVELOPMENT						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Component Development	Contract	EB-2112 Groton, CT	476.919	22.098	11/04	11.233	11/05	7.956	11/06	36.285	554.491	
Component Development	SS/CPFF	EB-4030 Groton, CT	236.311	1.600	11/04	1.600	11/05	0.000		0.000	239.511	
Component Development	SS/CPFF	LM-6226	18.015	0.000		0.000		0.000		0.000	18.015	
Component Development	WR	NSWC Carderock MD	453.309	10.817	11/04	13.505	11/05	8.192		69.869	555.692	
Component Development	WR	NSWC Crane, IA	4.029	0.000		0.000		0.000		0.000	4.029	
Component Development	WR	NUWC Newport, RI	80.698	1.832	11/04	1.182	11/05	0.989		21.261	105.962	
Component Development	WR	NFPC Phila, PA	6.256	0.400	11/04	0.000		0.000		0.000	6.656	
Component Development	Various	Misc	210.639	10.655	Various	0.000		0.000		0.000	221.294	
Technology Insertion	Various	Misc	25.032	3.500		14.386	Various	15.603	various	421.309	479.830	
Subtotal Product Development			1,511.208	50.902		41.906		32.740		548.724	2,185.480	
Remarks:												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Development Support												
Software Development												
Integrated Logistics Support	WR	NSWC Carderock MD	0.867	0.000		0.000				0.000		
Integrated Logistics Support	WR	NAWC Orlando, FL	25.711	1.065		0.000				0.000	26.776	
Integrated Logistics Support	WR	NUWC Newport, RI	2.269	0.342		0.000				0.000	2.611	
Integrated Logistics Support	C/CPAF	SEAPORT D7019 Rockville MD	3.306	0.075	11/04	0.075	11/05	0.075	11/06	0.000	3.531	
Misc	Various	Misc	0.000	0.177	11/04	0.100				0.000	0.277	
Award Fees											0.000	
Subtotal Support			32.153	1.659		0.175		0.075		0.000	33.195	
Remarks:												

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, 8 of 28)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604558N/VIRGINIA Class Design Development			PROJECT NUMBER AND NAME 1947/VIRGINIA Class HM&E DEVELOPMENT						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Test & Evaluation	Contract	EB-2112 Groton, CT	5.174	9.955	11/04	13.313	11/05	6.799	11/06	0.000	35.241	
Test & Evaluation	WR	NSWC Carderock MD	42.190	31.707	11/04	30.857	11/05	16.995		35.284	157.033	
Test & Evaluation	WR	NUWC Newport, RI	24.538	7.270	11/04	8.995	11/05	16.343		24.472	81.618	
Test & Evaluation	C/CPAF	EG&G C6411 Rockville, MD	7.469	0.000		0.000		0.000		0.000	7.469	
Test & Evaluation	C/CPAF	SEAPORT D7019 Rockville MD	13.084	0.850	11/04	1.100	11/05	0.979	11/06	5.613	21.626	
Test & Evaluation	Various	Miscellaneous	13.361	6.000	11/04	12.913	11/05	21.729		14.753	68.756	
Subtotal T&E			105.816	55.782		67.178		62.845		80.122	371.743	
Remarks:												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	C/CPAF	SEAPORT D7019 Rockville MD	10.678	1.641	11/04	1.063	11/05	0.713	11/06	33.497	47.592	
Program Management Support	C/CPAF	EG&G C6411 Rockville, MD	21.537								21.537	
Program Management Support	Various	Miscellaneous	19.232								19.232	
Travel												
Award Fees		EG&G C6411 Rockville, MD	1.032								1.032	
Subtotal Management			52.479	1.641		1.063		0.713		33.497	89.393	
Remarks:												
Total Cost			1,701.656	109.984		110.322		96.373		662.343	2,680.678	

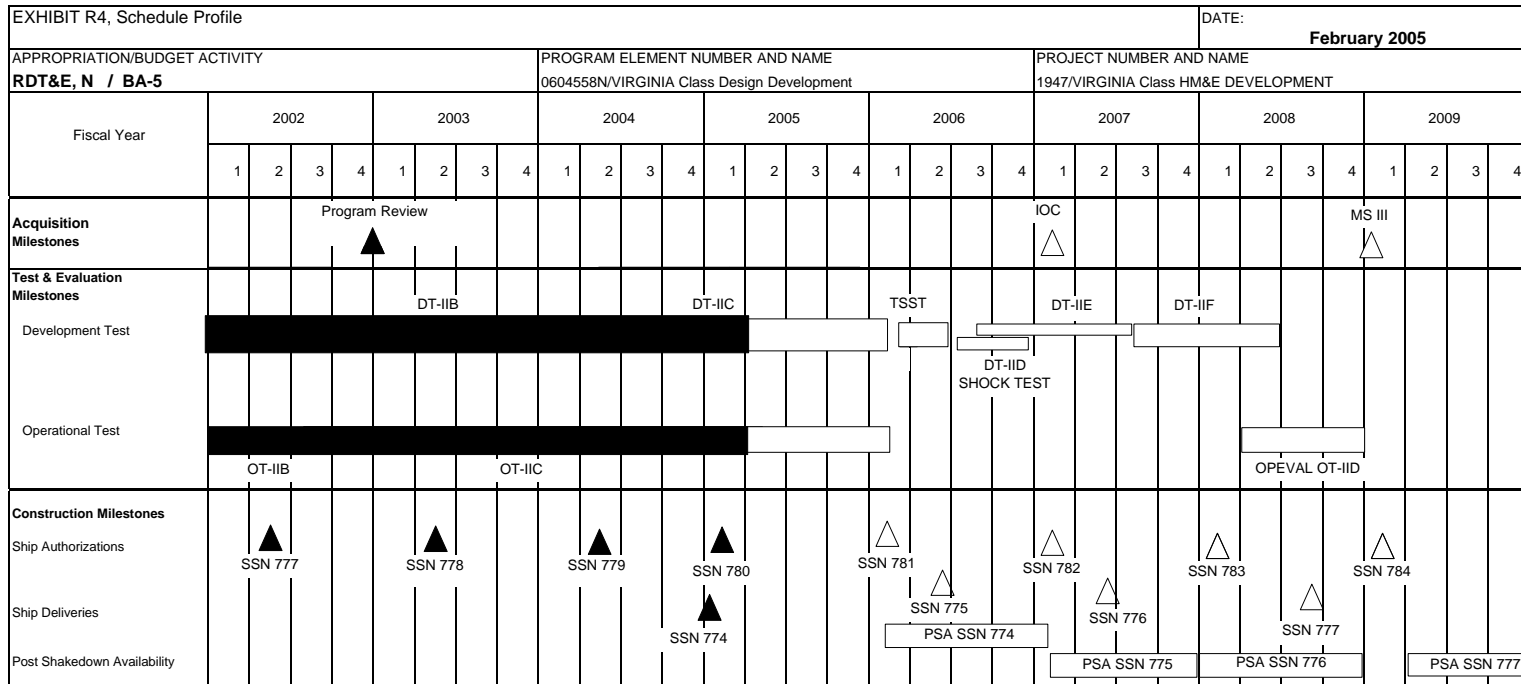
R-1 SHOPPING LIST - Item No. 113

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, 9 of 28)

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CLASSIFICATION:

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604558N/VIRGINIA Class Design Development				PROJECT NUMBER AND NAME 1950/VIRGINIA Class Combat System Development			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	38.332	49.426	42.871	40.130	36.879	27.802	34.197	40.316
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

A. (U) Mission Description and Budget Item Justification: (U) This project encompasses the top level systems development, test and integration into the ship of the VIRGINIA Class Submarine C3I System (formerly referred to as Combat Systems), which includes multiple subsystems. The scope of the system is expanded from Sonar and Combat Control subsystems to include AN/BLQ-10 Electronic Support (ES) Measures, Exterior Communications, Submarine Regional Warfare System, Navigation, Total Ship Monitoring, Imaging, Tactical Acoustic Communications, Radar, Interior Communications, Tactical Support Devices, Fiber Optic Cable Subsystem, and Special Purpose Subsystems, such as Battle Force Team Trainer and others. VIRGINIA Class Submarine specific development efforts include requirements definition, software, hardware development, software/hardware test, prototype production, and electronic integration as well as physical integration into the platform.

(U) The VIRGINIA Class Submarine implementation approach is based on Open System, Commercial-off-the-Shelf (COTS) Non-Developmental Items or subsystems. The program leverages on-going subsystems developments or developing new subsystems where needed to satisfy VIRGINIA Class requirements. The recurring cost of VIRGINIA Class Submarine C3I Systems is being reduced to meet the program's affordability goals. Modifications to many subsystems must be developed to: (1) reduce the shipbuilding and construction recurring costs through the use of COTS components; (2) use proven computer technologies to evolve to an Open System design; (3) enhance capabilities to support expanded operational requirements, reduced manning, and reduced shipboard component footprint.

(U) To meet the collective future threat, the submarine force must operate as effectively in littoral regions as it traditionally has in open ocean. Close coordination with surface battle groups and airborne units is essential to mission accomplishment. To meet the VIRGINIA Class Submarine mission, the following capabilities are provided by the VIRGINIA Class Submarine C3I System: (1) Passive and Active detection of multiple contacts, including early warning threat determination through processing and analysis of sensor data; (2) classification of sensor data for the purpose of identifying contacts; (3) localization (tracking) of contacts through target motion analysis; (4) preset, launch, and control of weapons and countermeasures; (5) improved communication and connectivity with other battle group elements, airborne units, and special operations forces; (6) incorporation of vertical launch system to enhance strike warfare; and (7) more effective covert surveillance through video imaging with onboard digital enhancement capabilities, and improved electronic warfare analysis capabilities.

(U) The FY04/05 budget submit expanded the original definition of the F1950 project mission to include an ongoing post VIRGINIA Class TECH/OPEVAL RDT&E effort to continue the development of VIRGINIA Unique Combat System Improvements. The VIRGINIA Class C3I will continue to leverage backfit communities efforts, but even with "common" systems that the Navy has developed there will continue to be VIRGINIA Unique capability improvements required. The FY08 and out funding identified is for those efforts.

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EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-5	0604558N/VIRGINIA Class Design Development	1950/VIRGINIA Class Combat System Development	

B. Accomplishments/Planned Program --- C3I Systems Engineering

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	23.809	39.827	29.672	25.191
RDT&E Articles Quantity				

1. (U) FY 2004 ACCOMPLISHMENTS:

- (U) (\$23.809M) Continued development of high priority ship safety/self-protect deficiencies identified during integration and lead ship sea test efforts. Continued the information assurance implementation of Non Propulsion Electronics System (NPES) systems/subsystems. Developed a Network Centric Architecture for Non-Tactical Data Processing System as well as additional GCCS-M capabilities for the Sonar Subsystem

2. (U) FY 2005 PLAN:

- (U) (\$39.827M) Continue development of high priority ship safety/self-protect deficiencies identified during integration and lead ship sea test efforts. Begin the detailed planning for C3I System/subsystems testing as part of VIRGINIA Class TECH/OPEVAL. Continue the Voyage Management System and information assurance implementation for NPES system/subsystems. The FY 2005 controls include \$18.2M of Congressional Plus-Up funding for the following: \$1.5M for Information Assurance; \$8.0M for Common Submarine Radio Room; \$2M for NTDPs Mates; \$1.7M for Shipboard Wireless LAN; \$3.5M for COTS Web Enabled Tool kit, and \$1.5M for Enhanced Open System Module.

3. (U) FY 2006 PLAN:

- (U) (\$29.672M) Continue development of high priority ship safety/self-protect deficiencies identified during integration and lead ship sea test efforts. Continue the detailed planning for C3I System/subsystems testing as part of VIRGINIA Class TECH/OPEVAL. Continue the Voyage Management System and information assurance implementation for NPES system/subsystems.

4. (U) FY 2007 PLAN:

- (U) (\$25.191M) Continue development of high priority ship safety/self-protect deficiencies identified during integration and lead ship sea test efforts. Conduct C3I System/subsystems testing as part of VIRGINIA Class TECH/OPEVAL. Complete the Voyage Management System implementation. Continue the information assurance implementation for NPES system/subsystems.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604558N/VIRGINIA Class Design Development	PROJECT NUMBER AND NAME 1950/VIRGINIA Class Combat System Development		
B. Accomplishments/Planned Program (Cont.) --- Sonar Combat Control and Architecture Subsystems				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	14.523	9.599	13.199	14.939
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p><u>FY 2004 Accomplishments:</u> (U) (\$14.523M) Continued development of high priority S/CC/A ship safety/self-protect deficiencies identified during integration and lead ship sea test efforts. Completed integration of Tactical Tomahawk capability into S/CC/A.</p> <p><u>FY 2005 Plan:</u> (\$9.599M) Continue development of high priority S/CC/A ship safety/self-protect deficiencies identified during integration and lead ship sea test efforts. Begin the detailed planning for S/CC/A subsystems testing as part of VIRGINIA Class TECH/OPEVAL.</p> <p><u>FY 2006 Plan:</u> (\$13.199M) Continue development of high priority S/CC/A ship safety/self-protect deficiencies identified during integration and lead ship sea test efforts. Continue the detailed planning for S/CC/A subsystems testing as part of VIRGINIA Class TECH/OPEVAL. Begin the development of SCCA System Improvements to maintain VIRGINIA Class Commonality to backfit fleet.</p> <p><u>FY 2007 Plan:</u> (\$14.939M) Continue development of high priority S/CC/A ship safety/self-protect deficiencies identified during integration and lead ship sea test efforts. Conduct S/CC/A subsystems testing as part of VIRGINIA Class TECH/OPEVAL. Continue the development of SCCA System Improvements to maintain VIRGINIA Class Commonality to backfit fleet.</p> </div>				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
			February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N / BA-5	0604558N/VIRGINIA Class Design Development	1950/VIRGINIA Class Combat System Development		
C. PROGRAM CHANGE SUMMARY:				
Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY05 President's Budget:	38.573	39.805	40.725	38.459
FY06 President's Budget:	38.332	49.426	42.871	40.130
Total Adjustments	-0.241	9.621	2.146	1.671
Summary of Adjustments				
Reprogramming	4.576			
Programmatic/Other Adjustments	-4.817	-8.579	2.146	1.671
FY05 Congressional Plus-Ups		18.200		
Subtotal	-0.241	9.621	2.146	1.671
Schedule:				
"Not Applicable"				
Technical:				
"Not Applicable"				

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UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604558N/VIRGINIA Class Design Development			PROJECT NUMBER AND NAME 1950/VIRGINIA Class Combat System Development				

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY2010	FY2011	To Complete	Total Cost
SCN Line 201300 PE: 0203281N	2698.3	2572.4	2401.5	2413.9	2528.5	3589.1	3780.4	3790.3	48389.5	84389.5
SCN Line 201310 PE: 0203281N	0	0	0	0	0	0	0	0	0	589.2
O&M'N BA-2 1B2B PE: 0204283N	14.4	18.6	24.6	38.2	54.6	67.2	65.6	68.3	cont.	cont.
OPN BA-8 Line Item 094200	0	57.8	175.6	192.1	182.4	209.7	223.0	232.2	cont.	cont.

(U) Related RDT&E
 (U) PE 0603504N (Advanced Submarine Combat Systems Development)
 (U) PE 0603561N (Advanced Submarine System Development)
 (U) PE 0603562N Submarine Tactical Warfare Systems)
 (U) PE 0603570N (Advanced Nuclear Power Systems)
 (U) PE 0604503N (Submarine System Equipment Development)
 (U) PE 0604574N (Navy Tactical Computer Resorses)
 (U) PE 0604777N (Navigation/ID Systems)
 (U) PE 0101226N (Submarine Acoustic Warfarte Development)
 (U) PE 0604562N (Submarine Tactical Warfare System)
 (U) PE 0604524N (Submarine Combat System)

E. ACQUISITION STRATEGY: *

The VIRGINIA Class Submarine Program has implemented Integrated Product and Process Development (IPPD). The traditional distinct phasing of the design process has been replaced with the continuous concurrent engineering IPPD process. The IPPD approach has facilitated a smoother transition from design to manufacturing, with Design expected to complete this year, and has reduced the number of changes typically encountered during construction of the lead and early follow-on ships. In September 1997, Congress passed a law allowing Electric Boat (EB) and Northrop Grumman Newport News (NGNN) to team for production of the first four VIRGINIA Class Submarines. Under the teaming agreement, EB remained the design yard for the VIRGINIA Class Submarine and NGNN became a part of the IPPD process. The Program Office awarded a multi-year contract for the FY04-08 ships. Future focus will be to complete ship design, continuance of Logistics product development, Technology Insertion and testing for the VIRGINIA Class submarines.

F. MAJOR PERFORMERS: **

Lockheed Martin, Manassas, Virginia. C3I Prime Contractor, Development and Limited Production of the S/CC/A Subsystems, Contract Award Date 24 April 1996.

Naval Undersea Warfare Center, Newport, Rhode, Island, Technical Direction Agent for all Virginia Class Electronics.

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2005					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT					PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604558N/VIRGINIA Class Design Development					1950/VIRGINIA Class Combat System Development						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
C3I Prime Contract E&MD Total	C/CPAF	Lockheed Manassas, VA	253.983	3.908	Various	1.085	Various	0.099	Various	0.056	Various	0.000	259.131	259.131
C3I Prime Contract E&MD Award Fee	C/CPAF	Lockheed Manassas, VA	7.820	0.051	Various	0.150	Various	0.010	Various	0.006	Various	0.000	8.037	8.037
C3I Prime Contract Post Delivery	C/FFP	Lockheed Manassas, VA	19.635	2.260	Various	1.255	Various	1.297	Various	0.642	Various	0.000	25.089	25.089
ARCI Prime Contract	SS/CPAF	Lockheed Manassas, VA	0.000	2.300	12/03							0.000	2.300	2.300
Unique Virginia Class Improvments	TBD	Various/TBD	0.000					4.158	11/05	4.706	11/06	91.794	100.658	100.658
Advanced Display Sys (AN/UYQ-70)	SS/CPIF	Lockheed St. Paul, MN	26.921			0.906		0.845	11/05	0.956	11/06	7.887	37.515	37.515
Multi-Purpose Processor	SS/CPIF	Digital Sys Fairfax, VA	41.449										41.449	41.449
Multi-Purpose Processor	SS/CPIF	Lockheed Manassas, VA	1.755										1.755	1.755
Photonics	C/CPIF	Kollmorgen Northhampton, M	30.762	1.000	11/03	1.590	11/04	2.706	11/05	2.136	11/06	8.318	46.512	46.512
Non-Penetrating Periscope	C/CPIF	Kollmorgen Northhampton, M	4.060										4.060	4.060
Electronic Support Measures	C/FFP	Lockheed Syracuse, NY	38.067									6.410	44.477	44.477
Platform Integration	SS/CPFF	EB Corp Groton, CT	28.916	0.700		1.000	11/04	1.400	11/05	1.000	11/06	13.823	46.839	46.839
Platform Integration	SS/CPFF	NNews Shipbuilding NNews,	3.065										3.065	3.065
Integrated Electronic Mast	SS/CPIF	Goleta Portsmouth, RI	8.897										8.897	8.897
Tactical Simulator	SS/CPFF	Goleta Portsmouth, RI	2.750										2.750	2.750
High Frequency Sail Array	SS/CPFF	Applied Research Austin, TX	3.273										3.273	3.273
Navigation/Radar	SS/CPFF	Sperry Corp Charlottesville, VA	6.153										6.153	6.153
Technology Refreshment	Various	Various/TBD	10.765			0.769	Various		Various		Various	9.590	21.124	
Open System Module	SS/CPFF	UNISYS Corp St. Paul, MN	2.500										2.500	2.500
Technical Direction Agent	N/A	NUWC Newport, RI	205.692	7.031	Various	8.500	Various	8.404	Various	7.728	Various	47.891	285.246	
Technology Refreshment/Info. Assur.	C/CPFF	Progeny Systems,Manassas,	12.820	6.412	11/03	3.290	Various	2.000	11/05	1.000	11/06	6.372	31.894	
NTDPS Network Centric Architecture	SS/CPFF	DSR, Fairfax, Virginia	0.000	3.760	01/04								3.760	
Systems Engineering	N/A	NSWC Cardock, MD	4.460	0.315	11/03	0.320		0.325		0.330		2.880	8.630	
Systems Engineering	N/A	NSWC Crane, IN	3.722										3.722	
Systems Engineering	N/A	SSC Charleston, SC	2.333										2.333	
Systems Engineering	N/A	SSC San Diego, CA	2.545										2.545	
Systems Engineering	N/A	NUWC Keyport, WA	7.858	1.119	11/03	1.140	11/04	1.160	11/05	1.180	11/06	10.400	22.857	
Miscellaneous	Various	Various	63.477	7.712	Various	24.572	Various	13.156	Various	12.404	Various	61.467	182.788	
Subtotal Product Development			793.678	36.568		44.577		35.560		32.144		266.832	1,209.359	
Remarks:														
Development Support			0.000										0.000	
Software Development			0.000										0.000	
Training Development			0.000										0.000	
Integrated Logistics Support			0.000										0.000	
Configuration Management			0.000										0.000	
Technical Data			0.000										0.000	
GFE			0.000										0.000	
Award Fees			0.000										0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)											DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME							
RDT&E, N / BA-5			0604558N/VIRGINIA Class Design Development				1950/VIRGINIA Class Combat System Development							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation			0.000										0.000	
Operational Test & Evaluation			0.000										0.000	
Test & Evaluation	Various	Various	0.000			2.070	Various	4.130	Various	4.712	Various	1.500	12.412	
Test Assets			0.000										0.000	
Tooling			0.000										0.000	
GFE			0.000										0.000	
Award Fees			0.000										0.000	
Subtotal T&E			0.000	0.000	0.000	2.070		4.130		4.712		1.500	12.412	
Remarks:														
Contractor Engineering Support			0.000										0.000	
Contractor Support Services/ETS	C/CPAF	EG&G Rockville, MD	5.834	1.675	Various	2.779	Various	2.790	Various	2.800	Various	23.633	39.511	
Contractor Support Services/ETS	C/CPAF	EG&G Rockville, MD	14.406										14.406	
CSS/ETS Award Fee	C/CPFF	EG&G Rockville, MD	1.195										1.195	
Contractor Support Services/ETS	C/CPFF	EG&G Rockville, MD	8.857										8.857	
Contractor Support Services/ETS	C/CPFF	SWL Inc. Vienna, VA	5.705										5.705	
Contractor Support Services/ETS	C/CPFF	American Sys Chantilly, VA	2.099										2.099	
Miscellaneous	Various	Various	4.676	0.089	Various			0.391		0.474		2.143	7.773	
Program Management Support			0.000										0.000	
Travel			0.000										0.000	
Subtotal Management			42.772	1.764		2.779		3.181		3.274		25.776	79.546	
Remarks:														
Total Cost			836.450	38.332		49.426		42.871		40.130		294.108	1,301.317	
Remarks:														

R-1 SHOPPING LIST

Item No. 113

UNCLASSIFIED

Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, 18 of 28)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:									
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME									
RDT&E, N / BA-5												0604558N/VIRGINIA Class Design Development												1950/VIRGINIA Class Combat Systems Development									
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4					
Acquisition Milestones																																	
Test & Evaluation Milestones																																	
Development Test																																	
Operational Test																																	
Construction Milestones																																	
Ship Authorizations																																	
Ship Deliveries																																	
Post Shakedown Availability																																	

R-1 SHOPPING LIST - Item No. 113

UNCLASSIFIED

CLASSIFICATION:

[illegible]

R-1 SHOPPING LIST - Item No. 113

UNCLASSIFIED

Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, 20 of 28)

UNCLASSIFIED

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604558N/VIRGINIA Class Design Development				PROJECT NUMBER AND NAME 3062/Submarine Multi-Mission Team Trainer			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	5.755	3.704	2.614	2.674	2.749	2.831	2.889	2.947
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

To achieve desired submarine force readiness levels, it is necessary to construct highly sophisticated shorebased Combat System Team Trainers capable of training personnel in all aspects of submarine approach, attack and surveillance operations in a controlled, simulated environment.

The Combat Control System (CCS) MK 1 and CCS MK 2 are installed on SSN and SSBN (TRIDENT) Class submarines, and there are currently plans to further upgrade these systems with the next H/W and S/W revisions which provide enhanced warfighter capabilities. The Tactical Acoustic Rapid COTS (commercial-off-the-shelf) Insertion (ARCI) Phased upgrades are also being installed with the next revision which provides enhanced warfighter capabilities. These CCS (AN/BYG-1) and ARCI (AN/BQQ-10) upgrades directly impact shore based Team Trainers. In addition, the Advanced Processing Builds (APB), which feed technology insertion into the CCS/Acoustic development, also impact the trainers.

The Submarine Multi-Mission Team Trainer (SMMTT) supports operator, employment, strike, and Battle Group training for enlisted and officer pipelines. The SMMTT provides individual operators and combat teams the opportunity to train ashore, prior to, and between deployments. The shore based training provides a means of maintaining team proficiency in stand alone or in combined team mode prior to ship deployment.

R-1 SHOPPING LIST - Item No. 113

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604558N/VIRGINIA Class Design Development	PROJECT NUMBER AND NAME 3062/Submarine Multi-Mission Team Trainer																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>5.755</td> <td>3.704</td> <td>2.614</td> <td>2.674</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 04	FY 05	FY 06	FY07	Accomplishments/Effort/Subtotal Cost	5.755	3.704	2.614	2.674	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY07															
Accomplishments/Effort/Subtotal Cost	5.755	3.704	2.614	2.674															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 80px;"> <p>FY04 Incorporate visualization/simulation (VIS/SIM) technology into appropriate displays. Develop Weapons Console emulations.</p> <p>FY05 Combine components and tailor interfaces to create immersive environment. Incorporate latest Advanced Processor Build (APB).</p> <p>FY06 Develop implementation of latest Advanced Processor Build (APB), Technical Insertion (TI) and associated training displays.</p> <p>FY07 Develop implementation of latest Advanced Processor Build (APB), Technical Insertion (TI) and associated training displays.</p> </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 04	FY 05	FY 06	FY07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; height: 70px;"></div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 04	FY 05	FY 06	FY07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; height: 70px;"></div>																			

R-1 SHOPPING LIST - Item No. 113

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604558N/VIRGINIA Class Design Development		PROJECT NUMBER AND NAME 3062/Submarine Multi-Mission TeamTrainer	

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY05 President's Budget:	6.000	3.746	2.665	2.723
FY06 President's Budget:	<u>5.755</u>	<u>3.704</u>	<u>2.614</u>	<u>2.674</u>
Total Adjustments	-0.245	-0.042	-0.051	-0.049
Summary of Adjustments				
Programmatic adjustments		-0.042	-0.051	-0.049
Misc Adjustments				
Execution Realign	-0.230			
Cancelled accounts	-0.015			
Subtotal	-0.245	-0.042	-0.051	-0.049

Schedule:

"Not Applicable."

Technical:

"Not Applicable."

R-1 SHOPPING LIST - Item No. 113

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, 24 of 28)

R-1 SHOPPING LIST - Item No. 113

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)									DATE: February-2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N /BA-5			0604558N/VIRGINIA Class Design Development			3062/Submarine Multi-Mission Team Trainer						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
											0.000	
											0.000	
Component Development	WX	NSWCCD, Bethesda, MD	21.087	3.209	various	2.214	various	2.274	various	9.816	38.600	N/A
Component Development	FR	UT Austin ARL	0.668	0.495	12/04	0.400	various	0.400	various	1.600	3.563	3.563
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			21.755	3.704		2.614		2.674		11.416	42.163	
Remarks:												
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

R-1 SHOPPING LIST - Item No. 113

UNCLASSIFIED

Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, 25 of 28)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)									DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDTE, N /BA-5			PROGRAM ELEMENT 0604558N/VIRGINIA Class Design Development			PROJECT NUMBER AND NAME 3062/Submarine Multi-Mission Team Trainer						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			22.000	3.704		2.614		2.674		11.416	42.408	
Remarks:												

R-1 SHOPPING LIST - Item No. 113

UNCLASSIFIED

Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, 26 of 28)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE: February 2005								
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME									PROJECT NUMBER AND NAME														
RDT&E, N /BA-5									0604558N/VIRGINIA Class Design Development									3062/Submarine Multi-Mission Team Trainer														
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Simulation Plan Development	Delivered FY03																															
Prime Item Development Specification (PIDS)	Delivered FY03																															
System Requirements Specification (SRS)	Delivered FY03																															
Interface Requirements Specification (IRS)	Delivered FY03																															
Interface Design Development and Updates			▲			▲																										
Software Development SSN751										△																						
Software Develop. SSGN										△					△																	
Software Develop. SSN 688										△						△																
Software Testing			▲																													
APB Upgrades from tactical			▲			△					△				△			△				△				△				△		
EDM Delivery and Updates	▲		▲					△				△				△			△			△				△				△		

R-1 SHOPPING LIST - Item No. 113

UNCLASSIFIED

Exhibit R-2, RDTE&E Budget Item Justification
(Exhibit R-2, 27 of 28)

UNCLASSIFIED

CLASSIFICATION:

[illegible]

R-1 SHOPPING LIST - Item No. 113

UNCLASSIFIED

Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, 28 of 28)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification					DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5			R-1 ITEM NOMENCLATURE SSN-21 Development/0604561N					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY2010	FY2011
Total PE Cost	23.596	2.972	2.928	3.462	2.745	2.796	2.978	3.039
SSN-21 Developments/1946	3.603	2.972	2.928	3.462	2.745	2.796	2.978	3.039
SEAFAC Range Upgrade/9233	19.993	0.000	0.000	0.000	0.000	0.000	0.000	0.000
A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
<u>1946 SSN-21 Developments:</u> The SEAWOLF Submarine is a multi-mission ship that provides unprecedented performance capabilities. It is the quietest, most heavily-armed attack submarine the Navy has ever built. The design of the SEAWOLF is based on an extensive research and development program and incorporates technological advancements to provide: order of magnitude improvement in ship quieting; improved acoustic sensors; more capable combat systems; greater weapon capacity and capability; quieter launch; weapon launch at high ship speed; advanced reactor; improved performance machinery program; an advanced propulsor; increased operating depth; improved ship control; and enhanced survivability. Beginning in FY05, Southeast Alaska Acoustic Measurement Facility (SEAFAC) Range Upgrade funding is included in 1946 (FY05-\$1.5M, FY06 - \$2.0M, FY07 - \$1.5M).								
<u>9233 SEAFAC Range Upgrade:</u> The SEAWOLF Class submarine is a multi-mission ship that provides numerous unprecedented submarine performance capabilities such as more capable combat systems, greater weapons capacity and capability, advanced reactor, improved acoustic sensors, increased operating depth, improved ship control, and enhanced survivability. Among these capabilities is an unprecedented acoustic stealth performance as a result of an order of magnitude improvement in ship quieting.								
Maintaining the acoustic stealth advantage and upholding the effectiveness and survivability of the SEAWOLF and future class submarines require that radiated acoustic signatures are periodically measured and understood. To this end, SEAFAC range will be upgraded with new underwater acoustic measurement systems capable of measuring new generation quiet-class submarines stationed in the Pacific fleet. The SEAFAC Range Upgrade Program comprises of a multi-year effort to design, develop, procure, install and test High Gain Measurement Systems (HGMS) in the Static and Underway Sites at SEAFAC. Efforts to upgrade the Static Site began in FY03 and efforts to upgrade the Underway Site begin in FY04. (Note: Please refer to RDT&E,N PE0604561N/1946 R2 and OPN BLI 094200/H1RC08 budget exhibits for associated SEAFAC Upgrade Program funding.)								

R-1 SHOPPING LIST - Item No.114

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification					DATE:			
					February 2005			
APPROPRIATION/BUDGET ACTIVITY				PROJECT NUMBER AND NAME				
RDT&E, N / BA-5				1946 / SSN-21 Developments				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	3.603	2.972	2.928	3.462	2.745	2.796	2.978	3.039
RDT&E Articles Qty								
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
The SEAWOLF Submarine is a multi-mission ship that provides unprecedented performance capabilities. It is the quietest, most heavily-armed attack submarine the Navy has ever built. The design of the SEAWOLF is based on an extensive research and development program and incorporates technological advancements to provide: order of magnitude improvement in ship quieting; improved acoustic sensors; more capable combat systems; greater weapon capacity and capability; quieter launch; weapon launch at high ship speed; advanced reactor; improved performance machinery program; an advanced propulsor; increased operating depth; improved ship control; and enhanced survivability. Beginnning in FY05, SEAFAC Range Upgrade funding is included in 1946 (FY05-\$1.5M, FY06 - \$2.0M, FY07 - \$1.5M).								

R-1 SHOPPING LIST - Item No.114

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604561N / SSN-21 Developments	PROJECT NUMBER AND NAME 1946 / SSN-21 Developments		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	0.640	0.964	0.624	0.000
RDT&E Articles Quantity				
<u>FY-04 , FY-05, FY-06 Plan:</u> Conduct follow-on OPEVAL testing for the class.				
	FY 04	FY 05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	0.675	0.175	0.000	0.000
RDT&E Articles Quantity				
<u>FY-04 and FY-05 Plan:</u> Completion of component shock tests and analysis for CFE and GFE in compliance with Class Plans and DOT&E requirements. Perform shock qualifications for the Global Command and Control System (GCCS) for the Common Submarine Radio Room (CSRR).				
	FY 04	FY 05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	0.000	1.500	2.000	1.500
RDT&E Articles Quantity				
<u>FY-05, FY-06, FY-07 Plan:</u> System test and validation, and corrective action efforts are planned for the SEAFAC Static Site. System development, engineering, and integration efforts are planned for the SEAFAC Underway Site.				
Note: Please refer to RDT&E,N PE0604561N/9233 R-2 and OPN BLI 094200/H1RC08 P5 budget exhibits for associated SEAFAC Upgrade Program funding.				

R-1 SHOPPING LIST - Item No.114

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604561N / SSN-21 Developments	PROJECT NUMBER AND NAME 1946 / SSN-21 Developments																	
B. Accomplishments/Planned Program (Cont.)																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%; text-align: center;">FY 04</td> <td style="width: 15%; text-align: center;">FY 05</td> <td style="width: 15%; text-align: center;">FY06</td> <td style="width: 15%; text-align: center;">FY07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">1.534</td> <td style="text-align: center;">0.208</td> <td style="text-align: center;">0.237</td> <td style="text-align: center;">0.663</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <p><u>FY-04 Accomplishments:</u> Re-engineering of NPE Systems and investigation of acoustic deficiencies. <u>FY-05 Plan:</u> Re-engineering and correction of SCS and Dry Deck Shelter (DDS) Interface (TIDS Migration). <u>FY06 and FY07 Plan:</u> Re-engineering and correction of Ship Control System (SCS) and acoustic sail deficiencies.</p> </div>						FY 04	FY 05	FY06	FY07	Accomplishments/Effort/Subtotal Cost	1.534	0.208	0.237	0.663	RDT&E Articles Quantity				
	FY 04	FY 05	FY06	FY07															
Accomplishments/Effort/Subtotal Cost	1.534	0.208	0.237	0.663															
RDT&E Articles Quantity																			
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	FY 04	FY 05	FY06	FY07															
Accomplishments/Effort/Subtotal Cost	0.754	0.125	0.067	0.060															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%; text-align: center;">FY 04</td> <td style="width: 15%; text-align: center;">FY 05</td> <td style="width: 15%; text-align: center;">FY06</td> <td style="width: 15%; text-align: center;">FY07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">1.239</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <p><u>FY07 plan:</u> Technology Insertion for the SSN23.</p> </div>						FY 04	FY 05	FY06	FY07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	1.239	RDT&E Articles Quantity				
	FY 04	FY 05	FY06	FY07															
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	1.239															
RDT&E Articles Quantity																			

R-1 SHOPPING LIST - Item No.114

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				38384		DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME			
RDT&E, N / BA-5		0604561N / SSN-21 Developments		1946 / SSN-21 Developments			
C. PROGRAM CHANGE SUMMARY:							
Funding:		FY 2004	FY 2005	FY 2006	FY 2007		
FY05 President's Budget		3.655	3.020	3.047	3.673		
FY06 President's Budget		3.603	2.972	2.928	3.462		
Total Adjustments		-0.052	-0.048	-0.119	-0.211		
Summary of Adjustments							
Programmatic adjustments			-0.004	-0.121	-0.213		
Undistributed congressional reductions		-0.043	-0.044				
CBDR-01 Customer Rate Change Policy of MRTFB							
Inflation adjustment				0.002	0.002		
Cancelled Accounts Liability		-0.009					
Subtotal		-0.052	-0.048	-0.119	-0.211		
Schedule:							
Not applicable.							
Technical:							
Not applicable.							

R-1 SHOPPING LIST - Item No.114

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							38384		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME					
RDT&E, N / BA-5			0604561N / SSN-21 Developments			1946 / SSN-21 Developments					
D. OTHER PROGRAM FUNDING SUMMARY:											
Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
(U) SCN #201200	10.091	9.294	14.299	0.000	0.000	0.000	0.000	0.000	0.000		8086.156
(U) MILCON P-398											27.300
(U) Related RDT&E:											
(U) P.E. 0603570N (Advanced Nuclear Power Systems)											
(U) P.E. 0604524N (Submarine Combat Systems)											
(U) P.E. 0604567N (Ship Contract Design/Live Fire T&E)											
E. ACQUISITION STRATEGY:											
(U) Delivered three SEAWOLF submarines under cost cap.											
(U) To continue to correct SEAWOLF Acoustics deficiencies.											
(U) To increase commonality with Virginia Class Submarines.											
(U) Continue to review all areas for possible cost reductions.											
F. MAJOR PERFORMERS:											
Naval Surface Warfare Center (NSWC) Carderock, MD - FY-04 \$.862; FY-05 \$1.675 , FY06 - \$2.133M, FY07 \$2.900 M (Acoustics, NPE, Shock, Test & Evaluation, SEAFAC and Tech Insertion).											
Contract awards were Dec 2003 for FY04 and Oct 2004 for FY05. Contract awards scheduled for Oct 2005 (FY06), and October 2006 (FY07).											
Naval Undersea Warfare Center (NUWC) Newport RI - FY-05 \$.793K (Test and Evaluation) FY06 - \$268K. Contract was awarded on Oct 2004 for FY05 and contract award is scheduled for											

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										38384		DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME										
RDT&E, N / BA-5			0604561N / SSN-21 Developments			1946 / SSN-21 Developments										
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract		
Primary Hardware Development		NSWC Carderock/Various				1.500		2.000		1.500			5.000			
Ancillary Hardware Development																
Systems Engineering	SS/CPFF	General Dynam Groton CT	369.596	0.075	Various	0.000	Various	0.000	Various	0.000	Various	0.200	369.871	369.871		
Systems Engineering	SS/CPFF	NGNN Newport News VA	119.030	0.500	Various	0.000	Various	0.000	Various	0.000	Various	0.200	119.730	119.730		
Systems Engineering	WR/RC	NSWC Carderock, MD	319.360	0.971	Various	0.000	Various	0.133	Various	1.400	Various	3.429	325.293			
Systems Engineering	WR/RC	NUWC Newport, RI	49.553	0.784	Various	0.595	Various	0.303	Various	0.418	Various	0.000	51.653			
Systems Engineering	Various	Various	469.922	0.707	Various	0.175	Various	0.000	Various	0.000	Various	6.937	477.741			
Licenses													0.000			
Tooling													0.000			
GFE													0.000			
Award Fees													0.000			
Subtotal Product Development			1,327.461	3.037		2.270		2.436		3.318		10.766	1,349.288			
Remarks:																
Development Support													0.000			
Software Development													0.000			
Training Development													0.000			
Integrated Logistics Support													0.000			
Configuration Management													0.000			
Technical Data													0.000			
GFE													0.000			
Award Fees													0.000			
Subtotal Support			0.000	0.000		0.000		0.000		0.000		0.000	0.000			
Remarks:																

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 7 of 9)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										38384		DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME									
RDT&E, N / BA-5			0604561N / SSN-21 Developments			1946 / SSN-21 Developments									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Developmental Test & Evaluation	SS/CPFF	General Dynam Groton C	68.994	0.000		0.000		0.000		0.000		0.000	68.994	68.994	
Developmental Test & Evaluation	WR	NSWC Carderock MD	95.950	0.141	Various	0.000	Various	0.000		0.000		0.000	96.091		
Developmental Test & Evaluation	Various	Various	124.451	0.344	Various	0.662	Various	0.452	Various	0.104		0.402	126.415		
Operational Test & Evaluation													0.000		
Tooling													0.000		
GFE													0.000		
Award Fees													0.000		
Subtotal T&E			289.395	0.485		0.662		0.452		0.104		0.402	291.500		
Remarks:															
Contractor Engineering Support													0.000		
Government Engineering Support													0.000		
Program Management Support & ET	Various	Various	48.435	0.000		0.000		0.000		0.000		0.000	48.435		
Travel				0.038		0.040		0.040		0.040		0.000	0.158		
Labor (Research Personnel)													0.000		
SBIR Assessment				0.043									0.043		
Subtotal Management			48.435	0.081		0.040		0.040		0.040		0.000	48.636		
Remarks:															
Total Cost			1,665.291	3.603		2.972		2.928		3.462		11.168	1,689.424		
Remarks:															

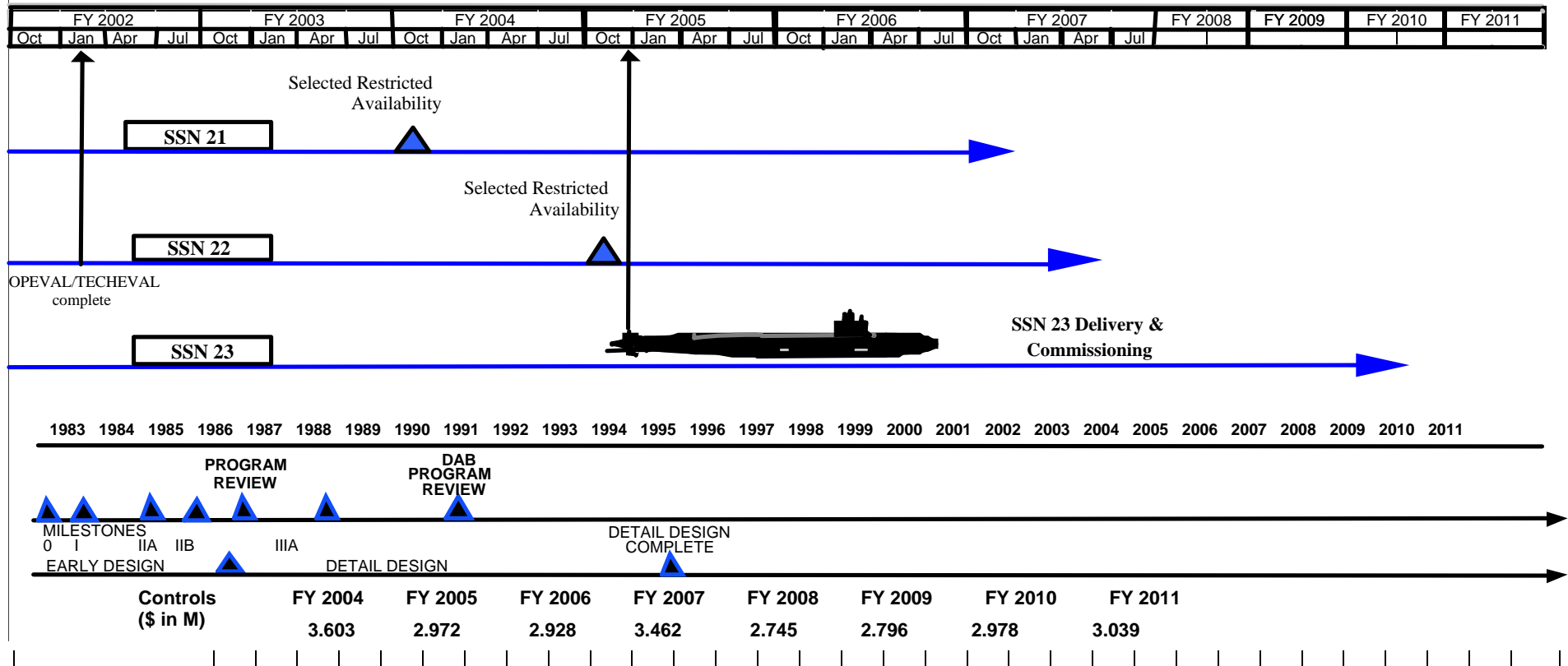
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CLASSIFICATION:

EXHIBIT R4, Schedule Profile						DATE:	
38384						February 2005	
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME	

Program Timeline



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* Not required for Budget Activities 1, 2, 3, and 6

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Budget Item Justification							DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					R-1 ITEM NOMENCLATURE Submarine Tactical Warfare System/0604562N			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	31.456	48.456	40.690	55.089	57.068	58.199	59.467	60.715
0236/SSN COMB CONT SYS IMP (ENG)	31.456	47.497	40.690	55.089	57.068	58.199	59.467	60.715
9576/Submarine MFOP	0.000	0.959	0.000	0.000	0.000	0.000	0.000	0.000

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program develops Commercial-Off-The-Shelf (COTS) based software and hardware upgrades to integrate improved weapons and tactical control capabilities for all submarine classes (SSN688, 688I, SSGN, SEAWOLF, and VIRGINIA (after the Post Shakedown Availability (Post PSA))). The hardware upgrades (technology insertions) will be developed on a bi-annual basis to provide improved capability and address COTS obsolescence. The AN/BYG-1 is the combat control system common across all submarine platforms which incorporates tactical control, weapon control and tactical Local Area Network (LAN) functions into a single development program. Funding also accomodates the annual integration of Advanced Processing Builds (APBs) software to both tactical control (APB(T)) and weapon control (APB(W)) subsystems. The tactical control integration effort incorporates the integration of other sensor (ESM, sonar, radar, etc.) inputs to provide a common operation picture and improve situational awareness in an information assurance (IA) compliant environment. The weapon control development effort provides improvements to the weapons control subsystem based on improvements to missiles and torpedos. AN/BYG-1 allows the submarine Navy to rapidly update the ship safety tactical picture, integrates the common tactical picture into the battlegroup, improves torpedo interfaces and provides tactical TOMAHAWK (TOMAHAWK Block IV) capability as this weapon is delivered to the fleet..

This program also develops and tests a COTS-based software weapons launch capability for all SSN688/688I and SEAWOLF submarines. This upgrade addresses weapons launch hardware component obsolescence while providing a more reliable launching capability for missiles and torpedos.

FY05 Congressional Adds: +\$1.000M Submarine Maintenance Free Operating Periods (MFOP), +\$1.600M Submarine Warfare Systems (SWS) Weapon status control, remote maintenance and FORCENet integration, and +\$3.000M Submarine Warfare system strike weapon status control.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604562N/SUBMARINE TACTICAL WARFARE SYSTEM	PROJECT NUMBER AND NAME 0236/SSN COMB CONT SYS IMP (ENG)																	
B. Accomplishments/Planned Program (Cont.)																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>AN/BYG-1 TI02</td> <td>15.031</td> <td>2.000</td> <td>0.000</td> <td>0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p style="margin-top: 10px;">FY04: Delivery of BYG-1 TI02/APB-02 to USS Louisville. Successfully conduct Developmental Testing (FOT&E) and Operational Testing (OT) which included launch of Tomahawk Block IV missile.</p> <p>FY05: Continue to resolve DT/OT discrepancies associated with BYG-1 TI00/TI02.</p>						FY 04	FY 05	FY 06	FY 07	AN/BYG-1 TI02	15.031	2.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
AN/BYG-1 TI02	15.031	2.000	0.000	0.000															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>AN/BYG-1 TI04</td> <td>3.753</td> <td>18.200</td> <td>7.100</td> <td>0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p style="margin-top: 10px;">FY04: Continued software development of BYG-1 TI04.</p> <p>FY05: Continue development, integration and test of the next generation BYG-1 (TI04) for 688I Class/SSN 21 scheduled for delivery in FY05.</p> <p>FY06: Complete development, integration and test of the next generation BYG-1 (TI04) for 688 Class/ SSGN scheduled for delivery in FY06.</p>						FY 04	FY 05	FY 06	FY 07	AN/BYG-1 TI04	3.753	18.200	7.100	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
AN/BYG-1 TI04	3.753	18.200	7.100	0.000															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>AN/BYG-1 TI06</td> <td>0.000</td> <td>3.933</td> <td>12.042</td> <td>13.592</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p style="margin-top: 10px;">FY05: Begin engineering process for selection and prototyping of new technologies for TI06.</p> <p>FY06: Update current BYG-1 TI baseline to TI06 for 688/688i Class.</p> <p>FY07: Update current BYG-1 TI baseline to TI06 for 688/688i Class.</p>						FY 04	FY 05	FY 06	FY 07	AN/BYG-1 TI06	0.000	3.933	12.042	13.592	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
AN/BYG-1 TI06	0.000	3.933	12.042	13.592															
RDT&E Articles Quantity																			

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604562N/SUBMARINE TACTICAL WARFARE SYSTEM	PROJECT NUMBER AND NAME 0236/SSN COMB CONT SYS IMP (ENG)		
B. Accomplishments/Planned Program (Cont.)				
	FY 04	FY 05	FY 06	FY 07
AN/BYG-1 TI08	0.000	0.000	0.000	4.957
RDT&E Articles Quantity				
FY07: Begin engineering process for selection and prototyping of new technologies for AN/BYG-1 TI08.				
Advanced Processor Builds (APB)	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	12.272	18.062	13.996	18.400
RDT&E Articles Quantity				
FY04: Continued integration of Advanced Processor Builds for 03/04 (APB03/04) into the Tech Insertion 04 baseline. FY05: Begin integration of APB(T)-05 and APB(W)-05 into BYG-1. FY06: Begin integration of APB(T)-06 into BYG-1. FY07: Begin integration of APB(T)-07 and APB(W)-07 into BYG-1.				
T&E	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.400	6.302	3.500	4.300
RDT&E Articles Quantity				
FY04: Completed FOT&E efforts for TI02 baseline. Resolve DT/OT issues with TI00 baseline. FY05: Plan and begin conduct of Development Testing of TI04 on 688 and Seawolf. FY06: Plan and begin BYG-1 TI04 FOT&E on 688/SSGN/Seawolf. FY07: Plan and conduct APB(T)-05 testing.				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604562N/SUBMARINE TACTICAL WARFARE SYSTEM	PROJECT NUMBER AND NAME 0236/SSN COMB CONT SYS IMP (ENG)																	
B. Accomplishments/Planned Program (Cont.)																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Common Weapon Launcher (CWL)</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">4.052</td><td style="text-align: center;">13.840</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Common Weapon Launcher (CWL)	0.000	0.000	4.052	13.840	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Common Weapon Launcher (CWL)	0.000	0.000	4.052	13.840															
RDT&E Articles Quantity																			
Develop, integrate and test Common Weapon Launcher (CWL) (FY06-FY07).																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td></td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost					RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost																			
RDT&E Articles Quantity																			

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604562N/SUBMARINE TACTICAL WARFARE SYSTEM	PROJECT NUMBER AND NAME 0236/SSN COMB CONT SYS IMP (ENG)		

C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
Funding:				
FY2005 Presidents Budget	32.354	43.404	40.425	54.467
FY2006/FY2007 Presidents Budget	31.456	47.497	40.690	55.089
Total Adjustments	-0.898	4.093	0.265	0.622
Summary of Adjustments:				
SBIR	-0.414			
Programmatic Adjustments	-0.454	4.549	0.265	0.622
Undistributed Congressional Reductions	-0.030	-0.456		
TOTAL:	-0.898	4.093	0.265	0.622

Schedule:

-None

Technical:

- FY06 budget reflects the submarine combat systems business strategy embodied in the AN/BYG-1 program. This strategy incorporates integration of annual performance improvements and bi-annual technology refresh to address COTS obsolescence issues.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification					DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDTE, N / BA-5				0604562N/SUBMARINE TACTICAL WARFARE SYSTEM	0236/SSN COMB CONT SYS IMP (ENG)	

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
OPN/BA-4 5420	69.041	114.777	131.199	88.138	106.849	99.641	108.381	114.799	CONT.	CONT.

Related RDT&E:

PE 0204229N (Tomahawk & Tomahawk Missile Planning Center)
PE 0205632N (MK 48 ADCAP)
PE 0603504N (Advanced Submarine Combat Systems Dev.)
PE 0604503N (SSN-688 and Trident Modernization)
PE 0604707N (Submarine Electronic Warfare Architecture/Eng. Support)

E. ACQUISITION STRATEGY: AN/BYG-1:

- Competitive contracts awarded in Dec 02 which started the development of a combat control system which segregates tactical control from weapons control system.
- This budget integrates APBs developed by the advanced development community.
- Advanced Processing Builds-Tactical (APB (T)) products associated with AN/BYG-1 Release-To-Fleet 4Q 2003, 3Q 2004, 3Q 2006, 3Q 2007, 3Q 2008, and 3Q 2009.
- Advanced Processing Builds-Weapons (APB (W)) integration associated with AN/BYG-1 begins FY2005 and will be Released-To-Fleet bi-annually and concurrently with an annual APB(T) product. APB(W) are integrated bi-annually due to increased time for weapon certification and safety issues.
- Follow-On contract for both tactical and weapons control subsystems are planned for award in FY2008.
- This program has been tailored in accordance with the new DoD5000 directive to incorporate annual MDA production reviews.

F. MAJOR PERFORMERS:

Raytheon Portsmouth, RI - Software Development for AN/BYG-1 weapon control subsystem - December 2002.
General Dynamics (GD AIS) Fair Lakes, VA - Software Development for AN/BYG-1 tactical control system - December 2002.
NUWC Newport, RI - Government Engineering

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Exhibit R-3 Cost Analysis (page 1)											DATE: FEBRUARY 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RD&E, N / BA-5			0604562N/SUBMARINE TACTICAL WARFARE SYSTEM			0236/SSN COMB CONT SYS IMP (ENG)								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Multi-Tube Weapon Simulator	SBIR	Progeny	1.635	1.000								0.000	2.635	
AN/BYG-1 Tech Insertion	CPIF/CPAF	Raytheon Portsmouth, RI		5.333	10/03	8.316	10/04	7.386	10/05	7.193	10/06	CONT.	CONT.	
AN/BYG-1 Tech Insertion	CPIF/CPAF	General Dynamics (GD AIS)		5.202	10/03	5.962	10/04	7.251	10/05	6.976	10/06	CONT.	CONT.	
Government Engineering	WR	NUWC Newport, RI	54.601	2.635	Various	3.744	Various	3.671	Various	3.533	Various	CONT.	CONT.	
AN/BYG-1 Tech Insertion	FFRDC	MITRE	1.137	0.365	10/03	0.513	10/04	0.475	10/05	0.475	10/06	CONT.	CONT.	
AN/BYG-1	CPIF/CPAF	ANTEON		4.000	12/03	4.600	03/05						8.600	
Common Weapons Launcher	CPIF/CPAF	Competitive						4.100	10/05	13.800	10/06	CONT.	CONT.	
COTS Hardware & Software	CPFF	DDL Omni	8.500										8.500	
													0.000	
Subtotal Product Development			93.778	18.535		23.135		22.883		31.977		0.000	190.308	
Remarks: <div> <div>Contract</div> <div>AN/BYG-1</div> </div> <div> <div>Award/Oblig</div> <div>Dec 02</div> </div>														
Development Support Equipment													0.000	
APB Software Integration	CPIF/CPAF	Raytheon Portsmouth, RI		4.970	10/03	7.299	10/04	5.668	10/05	7.452	10/06	CONT.	25.389	
APB Software Integration	CPIF/CPAF	General Dynamics (GD AIS)		4.847	10/03	7.118	10/04	5.528	10/05	7.268	10/06	CONT.	24.761	
APB Software Integration	WR	NUWC Newport, RI		2.454	Various	3.645	Various	2.799	Various	3.680	Various	CONT.	12.578	
Software Development (Mod 1-5)	Various	Various	36.679										36.679	
													0.000	
													0.000	
Subtotal Support			36.679	12.271		18.062		13.995		18.400		0.000	99.407	
Remarks:														

R-1 SHOPPING LIST - Item No. 115

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)												DATE: FEBRUARY 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-5			0604562N/SUBMARINE TACTICAL WARFARE SYSTEM			0236/SSN COMB CONT SYS IMP (ENG)								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various	8.912	0.300	10/03	3.750	10/04	2.350	10/05	2.700	10/06	CONT.	CONT.	
Operational Test & Evaluation	Various	Various	7.669	0.100	10/03	2.250	10/04	1.151	10/05	1.600	10/06	CONT.	CONT.	
Test & Evaluation			1.295											1.295
														0.000
														0.000
														0.000
														0.000
Subtotal T&E			17.876	0.400		6.000		3.501		4.300		0.000	32.077	
Remarks:														
Contractor Engineering Support													0.000	
Government Engineering Support													0.000	
Program Management Support	CPFF	EG&G Arlington, VA	8.481	0.250	10/03	0.300	10/04	0.311	10/05	0.412	10/06	CONT.	CONT.	
Travel	PD	NAVSEA Arlington, VA	0.350									CONT.	0.350	
Labor (Research Personnel)													0.000	
SBIR Assessment													0.000	
Subtotal Management			8.831	0.250		0.300		0.311		0.412		0.000	10.104	
Remarks: Contract EG&G Award/Oblig Dec 01														
Total Cost			157.164	31.456		47.497		40.690		55.089		0.000	331.896	
Remarks:														

R-1 SHOPPING LIST - Item No. 115

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																									DATE: FEBRUARY 2005																									
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME																																	
RDT&E, N / BA-5					0604562N / Submarine Tactical Warfare System												0236 / Submarine Combat System Improvements																																	
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011																					
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4																						
AN/BYG-1	Acquisition Milestones					Annual MDA Program Review					Annual MDA Program Review					Annual MDA Program Review					Annual MDA Program Review					Annual MDA Program Review					Annual MDA Program Review					Annual MDA Program Review														
	APB I&T, Certification					APB-03					APB-04					APB-05					APB-06					APB-07					APB-08					APB-09					APB-10					APB-11				
	AN/BYG-1 Tech Insertion Development, I&T Certification					TI-04					TI-06					TI-08					TI-10					TI-12																								
	Common Weapon Launcher (CWL)					CWL																																												
	Test & Evaluation Milestones					DT / FOT&E					AN/BYG-1					CWL																																		
DT / FOT&E					TI-02					TI-04					APB-05					TI-06					APB-07					TI-08					APB-09															
CWL					CWL																																													
Production					FY04					FY05					FY06					FY07					FY08					FY09					FY10					FY11										

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Exhibit R-2a, RD TEN Budget Item Justification
(Exhibit R-2a, page 10 of 10)

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY BA-5					R-1 ITEM NOMENCLATURE Ship Contract Design/Live Fire T&E PE 0604567N			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	114.654	118.519	55.672	86.506	83.826	59.393	40.082	87.499
2301 / CVN-77 Design	20.520	0.010	0.000	0.000	0.000	0.000	0.000	0.000
4007 / CVN 21 LFT&E	8.657	8.490	7.533	7.576	7.473	8.480	7.639	3.550
4008 / CVN 21 Total Ship Integration	22.691	62.600	9.721	22.204	6.918	0.000	0.000	0.000
3108 / CVN (X) Total Ship Integration	0.000	0.000	0.000	0.000	0.000	0.000	0.000	57.882
1803 / Ship Contract Design	1.731	1.696	11.538	6.465	4.723	4.753	4.753	4.716
2198 / Life Fire Test and Evaluation	4.213	0.000	2.745	1.563	0.000	0.000	0.000	0.000
S2465/LHA Replacement Flight 0	53.572	43.753	22.194	46.451	32.657	15.781	12.001	18.254
9389 LHD 8 Performance Based Logistics (PBL)	1.347	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9390 UNOLS Research Vessel*	1.923	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9578 / Integrated Modernization Environment	0.000	1.970	0.000	0.000	0.000	0.000	0.000	0.000
3133 Sea Base to Shore Connector	0.000	0.000	0.000	0.000	18.156	22.395	8.816	1.719
3134 Intratheater Connectors (Contract Design)	0.000	0.000	1.941	2.247	13.899	7.984	6.873	1.378
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This Program Element (PE) directly supports the Navy's Shipbuilding Plan by providing for the development of engineering, programmatic and acquisition documentation including ship specifications (including performance specifications) and contractual documentation associated with acquisition of Navy ships. This PE also supports the Congressionally mandated Live Fire Test and Evaluation program for new ship designs. Contract Design has traditionally been the engineering development of the technical and contractual definition of the ship design (including ship specifications and drawings) to a level of detail sufficient for shipbuilders to make a sound estimate of the construction cost and schedule. Additionally, the contract design package developed under this PE has provided the technical baseline from which the Navy selects the shipbuilder who then develops the detail design package required to support the construction and eventual delivery of the ship. This PE also supports the development of design methodologies/tools which facilitate and optimize the transition from ship design documents to efficient production of new ships and ship conversions, and supports engineering planning and ship affordability studies. Under Acquisition Reform for new design ships, traditional distinct phasing of the design process has been replaced with a continuous concurrent engineering Integrated Product and Process Development (IPPD) process extending through and after contract award. This serves to maintain the focus of multi-discipline teams consisting of the government, shipbuilder, system programs, and suppliers. Government/Industry Integrated Product Team(s) (IPTs) will utilize the IPPD process to develop the design in an Integrated Product and Data Environment (IPDE). The design approach is part of an acquisition strategy that is based on commercial practices and incorporates a phased technical definition.								
* Funding in project 9390 applies to Office of Naval Research Program Element 0601153N.								

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME Ship Contract Design/LFT&E PE 0604567N				PROJECT NUMBER AND NAME CVN 77 Design 2301			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	20.520	0.010	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project encompasses CVN 77 design. For FY04 and earlier, the CVN 77 design approach was part of an acquisition strategy based on incorporating best available commercial practices and a phased technical definition. The CVN 77 research and development investment identified and validated transition technologies for incorporation into the CVN 77 design. The objectives of these technologies were to enhance warfighting capabilities, reduce shipboard workload and life cycle costs, provide benefits to the other nine ships of the NIMITZ class, and mitigate future risk for CVN 21. The pivotal investment area was transition technology insertion into, and the functional combining of, traditional Combat Systems; Command, Control, Computers and Communications, Intelligence, Surveillance and Reconnaissance (C4ISR); and aviation functions to achieve transition technology objectives. Technical insertion risk mitigation actions resulted in reverting back to a modified repeat of the CVN 76 design.

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 3 of 70)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																														
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME Ship Contract Design/LFT&E PE 0604567N	PROJECT NUMBER AND NAME CVN 77 Design 2301																																															
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 35%;"></th> <th style="text-align: right; width: 15%;">FY 2004</th> <th style="text-align: right; width: 15%;">FY 2005</th> <th style="text-align: right; width: 15%;">FY 2006</th> <th style="text-align: right; width: 15%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY05 President's Budget</td> <td style="text-align: right;">28.674</td> <td style="text-align: right;">25.495</td> <td style="text-align: right;">5.858</td> <td style="text-align: right;">0.733</td> </tr> <tr> <td>FY06 President's Budget</td> <td style="text-align: right;">20.520</td> <td style="text-align: right;">0.010</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-8.154</td> <td style="text-align: right; border-top: 1px solid black;">-25.485</td> <td style="text-align: right; border-top: 1px solid black;">-5.858</td> <td style="text-align: right; border-top: 1px solid black;">-0.733</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td>misc reductions</td> <td style="text-align: right;">-8.154</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">-0.004</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>Programmatic/Other realignment</td> <td></td> <td style="text-align: right;">-25.485</td> <td style="text-align: right;">-5.854</td> <td style="text-align: right;">-0.733</td> </tr> <tr> <td>Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">-8.154</td> <td style="text-align: right; border-top: 1px solid black;">-25.485</td> <td style="text-align: right; border-top: 1px solid black;">-5.858</td> <td style="text-align: right; border-top: 1px solid black;">-0.733</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule:</p> <p>Not Applicable</p> <p style="margin-top: 20px;">Technical:</p> <p>Not Applicable.</p>						FY 2004	FY 2005	FY 2006	FY 2007	Funding:					FY05 President's Budget	28.674	25.495	5.858	0.733	FY06 President's Budget	20.520	0.010	0.000	0.000	Total Adjustments	-8.154	-25.485	-5.858	-0.733	Summary of Adjustments					misc reductions	-8.154	0.000	-0.004	0.000	Programmatic/Other realignment		-25.485	-5.854	-0.733	Subtotal	-8.154	-25.485	-5.858	-0.733
	FY 2004	FY 2005	FY 2006	FY 2007																																													
Funding:																																																	
FY05 President's Budget	28.674	25.495	5.858	0.733																																													
FY06 President's Budget	20.520	0.010	0.000	0.000																																													
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Summary of Adjustments																																																	
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Subtotal	-8.154	-25.485	-5.858	-0.733																																													

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005																								
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME Ship Contract Design/LFT&E PE 0604567N			PROJECT NUMBER AND NAME CVN 77 Design 2301																									
<p>D. OTHER PROGRAM FUNDING SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Line Item No. & Name</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2004</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2005</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2006</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2007</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2008</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2009</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2010</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2011</th> <th style="text-align: center; border-bottom: 1px solid black;">To Complete</th> <th style="text-align: center; border-bottom: 1px solid black;">Total Cost</th> </tr> </thead> <tbody> <tr> <td style="padding-top: 10px;">BLI 5300 Completion of PY Shipbuilding Programs</td> <td></td> <td></td> <td style="text-align: right;">145.000</td> <td style="text-align: right;">348.449</td> <td style="text-align: right;">376.475</td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: right;">869.924</td> </tr> </tbody> </table> <p style="margin-top: 20px;">E. ACQUISITION STRATEGY:</p> <p style="margin-top: 10px;">CVN77 is the 10th and last ship of the CVN68 Nimitz class of aircraft carriers. A sole source FPIF contract for basic construction was awarded to NGNN in January 2001.</p> <p style="margin-top: 20px;">F. MAJOR PERFORMERS:</p> <p style="margin-top: 10px;">Northrop Grumman Newport News Shipbuilding , Newport News Virginia SPAWAR, San Diego Ca NAVSEA, Washington DC NAVAIR, Pax River Md</p>										Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost	BLI 5300 Completion of PY Shipbuilding Programs			145.000	348.449	376.475					869.924
Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost																					
BLI 5300 Completion of PY Shipbuilding Programs			145.000	348.449	376.475					869.924																					

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)												DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME								
RDT&E, N / BA-5			Ship Contract Design/LFT&E PE 0604567N				CVN 77 Design 2301								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
CVN 77 Product Development	PR,SS	NGNN, Newport News VA	123.206	3.000	12/03	0.000		0.000					126.206		
	SS, CPFF	Bettis Atomic Pwr Labs, Pa	42.691										42.691	42.691	
	WR	NAWCS Lakehurst NJ, Pax Md	5.638	0.398	12/03	0.000		0.000					6.036		
	WR	NSWC Dahlgren	22.420	1.835	12/03	0.000		0.000					24.255		
	PD/WR	SPAWAR, San Diego Ca	10.568	6.587	12/03	0.000		0.000					17.155		
	PD	NAVSEA Wash DC	6.949	2.603	12/03	0.000		0.000					9.552		
	Various	Miscellaneous	30.940	1.160	12/03	0.000		0.000					32.100		
	WR	NSWC Carderock	1.859	0.387	12/03	0.000		0.000		0.000			2.246		
		cost of war withhold	1.300										1.300		
CVNX Product Development	PR,SS	NGNN, Newport News VA	33.178										33.178		
	MIPR	Anteon Corp, Arlington Va	1.816										1.816		
	PD	NAVAIR, Pax River Md	7.091										7.091		
	Various	Miscellaneous	1.472										1.472		
Subtotal Product Development			289.128	15.970		0.000		0.000		0.000			305.098		
Development Support															
Software Development															
Training Development															
Integrated Logistics Support															
Configuration Management															
Technical Data															
GFE															
Award Fees															
Subtotal Support			0.000	0.000		0.000		0.000		0.000		0.000			

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 6 of 70)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)													DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-5			PROGRAM ELEMENT Ship Contract Design/LFT&E PE 0604567N				PROJECT NUMBER AND NAME CVN 77 Design 2301								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY04 Cost	FY04 Award Date	FY05 Cost	FY05 Award Date	FY06 Cost	FY06 Award Date	FY07 Cost	FY07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Developmental Test & Evaluation															
Operational Test & Evaluation															
Live Fire Test & Evaluation	WR	NSWC Carderock	8.541										8.541		
	Various	Miscellaneous	0.743										0.743		
Tooling															
GFE															
Award Fees															
Subtotal T&E			9.284	0.000		0.000		0.000		0.000		0.000	9.284		
Remarks:															
Contractor Engineering Support															
Government Engineering Support															
Program Management Support		NAVSEA MAC		4.488		0.000		0.000					4.488		
Travel			0.106	0.062		0.010		0.000					0.168		
Labor (Research Personnel)															
SBIR Assessment															
Subtotal Management			0.106	4.550		0.010		0.000				0.000	4.656		
Remarks:															
Total Cost			298.518	20.520		0.010		0.000		0.000		0.000	319.038		
Remarks:															

R-1 SHOPPING LIST - Item No. 116

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 8 of 70)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5		PROGRAM ELEMENT NAME AND NUMBER Ship Contract Design/LFT&E PE 0604567N			PROJECT NAME AND NUMBER CVN 21 LFT&E 4007			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	8.657	8.490	7.533	7.576	7.473	8.480	7.639	3.550
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project encompasses LFT&E efforts for CVN 78 and CVN 79. Title 10, US Code, Section 2366, CVN 21 Operational Requirements Document (ORD) and the CVN 21 Test and Evaluation Master Plan , prescribe requirements for Live Fire Test and Evaluation (LFT&E). The purpose of LFT&E is to evaluate weapons and weapons systems in a realistic combat environment and to identify any mission threatening vulnerabilities early in the development process when there is time to take corrective action. The CVN 21 LFT&E Management Plan details the efforts, through testing and engineering analyses, to address potential design vulnerabilities.

The high unit cost of CVN 21 class and its shipboard systems preclude consideration of destructive testing of a full-up CVN 21 class hull with threats of the type that might be expected in combat. Consequently, the Navy must rely on other means to determine that CVN 21 class ships will be able to survive and carry out its missions in the face of the threats identified in the CVN 21 System Threat Assessment Report.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME Ship Contract Design/LFT&E PE 0604567N	PROJECT NUMBER AND NAME CVN 21 LFT&E 4007	

B. Accomplishments/Planned Program

	FY04	FY05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	8.657	8.490	7.533	7.576
RDT&E Articles Quantity				

(U) FY04/05: Resolve low confidence areas in analytical models for LFT&E concerns and continue to conduct LFT&E surrogate test program. This includes continuation of testing underwater protection features (innerbottom structure and Torpedo Side Protection System), dynamic test of hull girder models and conduct of recoverability tests, and vulnerability modeling of the CVN 78 for Vulnerability Assessment Report #3. Initiate survivability modeling improvements. Conduct weapon debris full scale tests and analyses. Conduct underwater explosion and recoverability surrogate tests on the Large Test Asset (LTA). Continue with analytical bridge work between scaled model test results and analytical correlations. Update and develop new SVM models. Prepare, construct and test full and scaled surrogate model targets as required by TEMP 1610 and the LFT&E Management Plan. Conduct analyses and tests on ex-SHADWELL to evaluate ordnance in CVN 78 class representative locations, to review hangar bay fire spread, to determine desmoking and dewatering capabilities, data network system, and to assess fire main vulnerability. Continue intensive vulnerability modeling of CVN 78 for Vulnerability Assessment Report #3. Continue survivability model improvements to support CVN 78 vulnerability assessment. Begin analyses of CVN 21 class vulnerability for VAR 3. In support of ORD vulnerability requirements testing, begin planning efforts & begin representative CVN 21 class fire and smoke spread tests, and main drainage analyses; assess designed passive damage control features and conduct recoverability modeling tests.

(U) FY06: Conduct susceptibility assessment of the CVN 21 class. Continue to resolve low confidence areas in analytical models for LFT&E concerns and continue to conduct LFT&E surrogate test program. This includes continuation of testing underwater protection features (innerbottom structure), and conduct of recoverability tests. Continue survivability modeling improvements. Continue with analytical bridge work between scaled model test results and analytical correlations. Continue update and develop new SVM/ASAP models. Prepare, construct and test full and scaled surrogate model targets as required by TEMP 1610 and the LFT&E Management Plan. Refurbish Flight Deck Model. Finalize vulnerability analyses and drafting of Vulnerability Assessment Report #3. Continue survivability model improvements to support CVN 21 class vulnerability assessment. In support of ORD vulnerability requirements testing, conduct representative CVN 21 class fire and smoke spread tests, flight deck fire tests, and main drainage tests; conduct test of the passive damage control features and conduct recoverability modeling tests.

(U) FY07: Continue susceptibility assessment of the CVN 21 class. Continue to resolve low confidence areas in analytical models for LFT&E concerns and continue to conduct LFT&E surrogate test program. This includes testing Damage Prevention Protection System, System B components, & continuation of testing underwater protection features (innerbottom structure), and conduct of recoverability tests, and deliver the CVN 21 Vulnerability Assessment Report #3. Initiate survivability modeling improvements. Continue with analytical bridge work between scaled model test results and analytical correlations. Update and develop new SVM models. Prepare, construct and test full and scaled surrogate model targets as required by TEMP 1610 and the LFT&E Management Plan. Conduct Flight Deck testing and analysis.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																														
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME Ship Contract Design/LFT&E PE 0604567N	PROJECT NUMBER AND NAME CVN 21 LFT&E 4007																																															
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;">Funding:</th> <th style="text-align: right; width: 10%;">FY 2004</th> <th style="text-align: right; width: 10%;">FY 2005</th> <th style="text-align: right; width: 10%;">FY 2006</th> <th style="text-align: right; width: 10%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>FY05 President's Budget</td> <td style="text-align: right;">8.797</td> <td style="text-align: right;">8.605</td> <td style="text-align: right;">8.158</td> <td style="text-align: right;">8.108</td> </tr> <tr> <td>FY06 President's Budget</td> <td style="text-align: right;">8.657</td> <td style="text-align: right;">8.490</td> <td style="text-align: right;">7.533</td> <td style="text-align: right;">7.576</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-0.140</td> <td style="text-align: right; border-top: 1px solid black;">-0.115</td> <td style="text-align: right; border-top: 1px solid black;">-0.625</td> <td style="text-align: right; border-top: 1px solid black;">-0.532</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td style="padding-left: 20px;">Congressional Recissions</td> <td style="text-align: right;">-0.098</td> <td style="text-align: right;">-0.105</td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">SBIR reduction</td> <td style="text-align: right;">-0.020</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Technical & Miscellaneous Adjustments</td> <td style="text-align: right;">-0.022</td> <td style="text-align: right;">-0.010</td> <td style="text-align: right;">-0.625</td> <td style="text-align: right;">-0.532</td> </tr> <tr> <td></td> <td style="text-align: right; border-top: 1px solid black;">-0.140</td> <td style="text-align: right; border-top: 1px solid black;">-0.115</td> <td style="text-align: right; border-top: 1px solid black;">-0.625</td> <td style="text-align: right; border-top: 1px solid black;">-0.532</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule:</p> <p>The CVN 78 Basic Construction contract will be awarded in FY08 with delivery in FY15.</p> <p style="margin-top: 20px;">Technical:</p> <p>Not Applicable</p>					Funding:	FY 2004	FY 2005	FY 2006	FY 2007	FY05 President's Budget	8.797	8.605	8.158	8.108	FY06 President's Budget	8.657	8.490	7.533	7.576	Total Adjustments	-0.140	-0.115	-0.625	-0.532	Summary of Adjustments					Congressional Recissions	-0.098	-0.105			SBIR reduction	-0.020				Technical & Miscellaneous Adjustments	-0.022	-0.010	-0.625	-0.532		-0.140	-0.115	-0.625	-0.532
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:		
								February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME				
RDT&E, N / BA-5			Ship Contract Design/LFT&E PE 0604567N			CVN 21 LFT&E 4007				
D. OTHER PROGRAM FUNDING SUMMARY:										
Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
BLI 200100 Carrier Replacement Program	1,162.905	623.551	564.913	795.994	3,689.413	3,730.407	1,657.362	539.680	Cont.	Cont.
PE 0603512N Carrier System Development	145.490	161.930	167.823	198.395	160.688	155.120	146.126	85.451	Cont.	Cont.
PE 0603570N Adv. Nuclear Power Systems	198.814	168.080	168.373	170.980	160.992	152.814	133.951	105.975	Cont.	Cont.
*Note: Only a portion of the funding in PE 0603570N is included in the CVN 21 Program										
E. ACQUISITION STRATEGY:										
The CVN 78 will be the first ship of the CVN 21 class of aircraft carriers. Due to the length and cost of construction, each carrier will be contracted for separately. The CVN 78 will feature a new nuclear propulsion and electrical generation/distribution system, new electromagnetic aircraft launching system, advanced arresting gear system, all electric auxiliaries, warfare system improvements, survivability enhancements, improved weapons handling, and improved aircraft servicing. These design features will result in lower manpower and total ownership costs as compared to the Nimitz Class. Additionally, the following warfighting benefits will be realized: increased sortie generation rate, improved ship self defense capability, increased launch and recovery capability/flexibility, increased operational availability, and increased flexibility to support future upgrades.										
F. MAJOR PERFORMERS:										
NSWC Carderock Maryland										

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Exhibit R-3 Cost Analysis												DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT					PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			Ship Contract Design/LFT&E PE 0604567N					CVN 21 LFT&E 4007						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Live Fire Test & Evaluation	WX	NSWC Carderock, MD	7.780	7.598	12/03	7.225	12/04	7.005	12/05	7.046	12/06	Continuing	Continuing	
	Various	Miscellaneous	1.233	1.059	12/1/2003 5/31/2004	1.265	12/04	0.528	12/05	0.530	12/06	Continuing	Continuing	
Subtotal T&E			9.013	8.657		8.490		7.533		7.576		Continuing	Continuing	
Remarks:														
Contractor Engineering Support														
Government Engineering Support														
Program Management Support														
Travel														
Labor (Research Personnel)														
SBIR Assessment														
Subtotal Management			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
Total Cost			9.013	8.657		8.490		7.533		7.576		Continuing	Continuing	
Remarks:														

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EXHIBIT R4, Schedule Profile																								DATE:												
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME												
RDT&E, N / BA-04												PE 0603512N - Carrier Systems Development												CVN 21 LFT&E 4007												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones		MS B ▲	SRR ▲				SFR ▲		PDR ▲				CDR ▲	DAB ▲	PR																					
Propulsion Plant																																				
EMALS		SDD AWARD ▲			SRR ▲	SFR ▲	PDR ▲	CDR 1 ▲	CDR 2 ▲	TRR 1 ▲			TRR 2 ▲						LRIP ▲																	
DBR Radar Suite		PDR ▲			CDR ▲																															
Advanced Arresting Gear	SRR ▲			PDR ▲	MS B ▲			CDR-1-2 ▲					TRR 1 ▲						TRR 2 ▲				MS C ▲													
Test & Evaluation Milestones																																				
Development Test	◆	DT A2								◆	DT B1								◆	DT B2								◆	DT B3							
Operational Test					OT B1		◆						◆	OT B2		◆	OT B3		◆	OT B4		◆							◆	OT B5		◆				
Contract Milestones																																				
IPPD Contract																																				
CP Contract		Contract Award ▲																																		
Construction Contract																																				
Full Funding (SCN)																																				

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* Not required for Budget Activities 1, 2, 3, and 6

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Exhibit R-4a, Schedule Detail							DATE:		
							February 2005		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E, N / BA-04		PE 0603512N - Carrier Systems Development				CVN 21 LFT&E 4007			
Schedule Profile	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	
Developmental Tests DT A-2	1-4Q								
Advanced Arresting Gear SRR	1Q								
EMALS SDD Phase Initiate	2Q								
Dual Band Radar PDR	2Q								
CVN 21 Milestone B	3Q								
CVN 21 SRR	3Q								
Construction Preparation Contract Award	3Q								
Advanced Arresting Gear PDR	4Q								
EMALS SRR		1Q							
Developmental Tests DT A-2		1-4Q							
Dual Band Radar CDR		1Q							
Advanced Arresting Gear Milestone B		1Q							
Operational Tests OT-B1		2-3Q							
EMALS SFR		2Q							
CVN 21 SFR		3Q							
EMALSP PDR		3Q							
EMALS CDR 1		4Q							
Advanced Arresting Gear CDR 1		4Q							
CVN 21 PDR			1Q						
Developmental Tests DT A-2			1-4Q						
AAG CDR 2			1Q						
EMALS CDR 2			2Q						
EMALS TRR 1(HALT/HCT)			4Q						
CVN 21 CDR				1Q					
Developmental Tests DT-B1				1-4Q					
Operational Tests OT-B2				1-4Q					
CVN 21 DAB PR				2Q					
AAG TRR 1 (DT/OA)				2Q					
EMALS TRR 2 (DT/OA)				4Q					
CVN 21 Construction Contract Award					1Q				
CVN 21 SCN Full Funding					1Q				
Developmental Tests DT-B1					1-4Q				
Operational Tests OT-B3					1-4Q				
EMALS LRIP					4Q				
AAG TRR 2 (DT/OA)						1Q			
Developmental Tests DT-B1						1Q			
Operational Tests OT-B4						1-4Q			
Developmental Tests DT-B2						3-4Q			
Developmental Tests DT-B2							1-4Q		
AAG LRIP								1Q	
Operational Tests OT-B5								1-4Q	
Developmental Tests DT-B3								2-4Q	

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EXHIBIT R-2a, RDT&E Project Justification							DATE:
							February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER				PROJECT NAME AND NUMBER		
RDT&E, N / BA 5	Ship Contract Design/LFT&E PE 0604567N				CVN 21 Total Ship Integration 4008		
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Project Cost	22.691	62.600	9.721	22.204	6.918	0.000	0.000
RDT&E Articles Qty							
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>This project encompasses CVN 78 Total Ship Integration efforts. The traditional distinct phasing of the design process for aircraft carriers has been replaced with a continuous concurrent engineering regime incorporating the methodology, measurement, and management elements of the Navy's Integrated Product and Process Development (IPPD) process, extending it beyond contract award. The CVN 78 total ship integration effort will be managed within a technology change management process at contract award to allow further system development. This will ensure that the latest technologies are properly incorporated during the 8 year construction period for an aircraft carrier, without costly contract changes. The IPPD process serves to maintain the focus of multi-discipline teams consisting of the government, shipbuilder, aviation programs, and suppliers. Government/Industry Integrated Product Teams (IPTs) utilize the IPPD process within an Integrated Data Environment (IDE) to design and develop ship construction Contract Data Packages (CDPs). The CVN 21 class design approach is part of an acquisition strategy that is based on incorporating best available commercial practices and a phased technical definition.</p> <p>CVN 78 Total Ship Integration, the integration of major systems into ship design, includes redesign and rearrangement of ship components; redesign of hull, mechanical and electrical (HM&E) and auxiliary systems (air-conditioning and ventilation, power distribution and generation, airborne noise management, reduction of steam, environmental safety and health (ESH) and interface control; redesign of water production and tankage; electric loads analysis; redesign of power distribution; analysis and redesign of structure; analysis, tracking and management of changes in weight distribution and stability; analysis and redesign of survivability systems, and analysis and design of all associated ship hull, mechanical, electrical, propulsion, combat/warfare system, survivability and other related components. This project also encompasses those tasks required to develop the contract data package necessary to support CVN 78 procurement, including, but not limited to engineering support, programmatic and program support, logistics support, modeling and simulation, manpower and program related studies.</p>							

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME Ship Contract Design/LFT&E PE 0604567N	PROJECT NUMBER AND NAME CVN 21 Total Ship Integration 4008		
B. Accomplishments/Planned Program				
	FY04	FY05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	22.691	62.600	9.721	22.204
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 10px; min-height: 150px;"> <p>FY04 - FY07</p> <p>(U) Continue to resolve CVN 78 whole ship design issues related to aviation systems, combat and integrated warfare systems, auxiliary systems, and HM&E systems. Update the contract data package, including design drawings and specifications in areas where near- term LLTM advanced purchase and early fabrication work may be impacted. The update accommodates changes to the ship, its systems and equipment necessitated by equipment obsolescence, operational need, and incorporation of newer systems/technology. Provide required program management and logistics support, Accomplish Total Ship Integration through the IPPD process to incorporate the design changes required to the legacy baseline design for definition at the total system level.</p> </div>				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:		February 2005	
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME				
RDT&E, N / BA-5			Ship Contract Design/LFT&E PE 0604567N			CVN 21 Total Ship Integration 4008				
D. OTHER PROGRAM FUNDING SUMMARY:										
Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
BLI 200100 Carrier Replacement Program	1,162.905	623.551	564.913	795.994	3,689.413	3,730.407	1,657.362	539.680	Cont.	Cont.
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*Note: Only a portion of the funding in PE 0603570N is included in the CVN 21 Program										
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The CVN 78 will be the first ship of the CVN 21 class of aircraft carriers. Due to the length and cost of construction, each carrier will be contracted for separately. The CVN 78 will feature a new nuclear propulsion and electrical generation/distribution system, new electromagnetic aircraft launching system, advanced arresting gear system, all electric auxiliaries, warfare system improvements, survivability enhancements, improved weapons handling, and improved aircraft servicing. These design features will result in lower manpower and total ownership costs as compared to the Nimitz Class. Additionally, the following warfighting benefits will be realized: increased sortie generation rate, improved ship self defense capability, increased launch and recovery capability/flexibility, increased operational availability, and increased flexibility to support future upgrades.										
F. MAJOR PERFORMERS:										
Northrop Grumman Newport News NSWC Carderock NAWC Lakehurst NAVSEA										

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Exhibit R-3 Cost Analysis (page 1)												DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT Ship Contract Design/LFT&E PE 0604567N					PROJECT NUMBER AND NAME CVN 21 Total Ship Integration 4008						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Total Ship Integration	WX	NSWC Carderock	10.480	1.602	12/03	3.003	12/04		12/05	7.200	12/06	Continuing	Continuing	
	SS, CPAF	NGNN, Newport News Va	33.043	5.870	12/03	23.417	12/04	1.000	12/05		12/06	Continuing	Continuing	
	IPR	GSA	5.550	0.338										
	WX	NAWC, Lakehurst	3.855	0.268	12/03							Continuing	Continuing	
	WX	NSWC Dahlgren		2.554	12/03	5.740	12/04			3.500	12/06			
	WX	NSWC, Port Hueneme	4.000									Continuing	Continuing	
	PR	NAVSEA SEAPORT		8.135	12/03	14.534	12/04	6.490	12/05	4.071	12/06	Continuing	Continuing	
	WX	NAWC AD, PAX River		2.383		6.445	12/04			4.000	12/06			
	PD	SPAWAR, San Diego	8.766			1.960	12/04					Continuing	Continuing	
	Various	Miscellaneous	8.766	1.390	12/03	7.351	12/04	2.081	12/05	3.283	12/06	Continuing	Continuing	
Subtotal Product Development			74.460	22.540		62.450		9.571		22.054		Continuing	Continuing	
Remarks: For FY02 and prior this effort was accomplished under PE 0603512N, projects 42208 and 42693														
Development Support														
Software Development														
Training Development														
Integrated Logistics Support														
Configuration Management														
Technical Data														
GFE														
Award Fees														
Subtotal Support			0.000	0.000		0.000		0.000		0.000				
Remarks:														

R-1 SHOPPING LIST - Item No. 116

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)												DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5				PROGRAM ELEMENT Ship Contract Design/LFT&E PE 0604567N				PROJECT NUMBER AND NAME CVN 21 Total Ship Integration 4008						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation														
Operational Test & Evaluation														
Live Fire Test & Evaluation														
Test Assets														
Tooling														
GFE														
Award Fees														
Subtotal T&E			0.000	0.000		0.000		0.000		0.000				
Remarks:														
Contractor Engineering Support														
Government Engineering Support														
Program Management Support														
Travel			0.102	0.150		0.150		0.150		0.150				
Labor (Research Personnel)														
SBIR Assessment														
Subtotal Management			0.102	0.150		0.150		0.150		0.150				
Remarks:														
Total Cost			74.562	22.690		62.600		9.721		22.204				
Remarks:														

R-1 SHOPPING LIST - Item No. 116

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:												
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME												
RDT&E, N / BA-04												PE 0603512N - Carrier Systems Development												CVN 21 Total Ship Integration 4008												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones		MS B ▲	SRR ▲				SFR ▲		PDR ▲				CDR ▲	DAB ▲	PR																					
Propulsion Plant																																				
EMALS		SDD AWARD ▲			SRR ▲	SFR ▲	PDR ▲	CDR 1 ▲	CDR 2 ▲	TRR 1 ▲			TRR 2 ▲				LRIP ▲																			
DBR Radar Suite		PDR ▲			CDR ▲																															
Advanced Arresting Gear	SRR ▲			PDR ▲	MS B ▲			CDR-1-2 ▲					TRR 1 ▲				TRR 2 ▲				MS C ▲															
Test & Evaluation Milestones																																				
Development Test	◆	DT A2								◆	DT B1								◆	DT B2								◆	DT B3							
Operational Test					OT B1		◆						◆	OT B2		◆	OT B3		◆	OT B4		◆							◆	OT B5		◆				
Contract Milestones																																				
IPPD Contract																																				
CP Contract		Contract Award ▲																																		
Construction Contract																	Contract Award ▲																			
Full Funding (SCN)																	X																			

R-1 SHOPPING LIST - Item No. 116

* Not required for Budget Activities 1, 2, 3, and 6

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail							DATE:		
APPROPRIATION/BUDGET ACTIVITY							February 2005		
RDT&E, N /	BA-04	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
		PE 0603512N - Carrier Systems Development				CVN 21 Total Ship Integration 4008			
Schedule Profile		FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11
Developmental Tests DT A-2		1-4Q							
Advanced Arresting Gear SRR		1Q							
EMALS SDD Phase Initiate		2Q							
Dual Band Radar PDR		2Q							
CVN 21 Milestone B		3Q							
CVN 21 SRR		3Q							
Construction Preparation Contract Award		3Q							
Advanced Arresting Gear PDR		4Q							
EMALS SRR			1Q						
Developmental Tests DT A-2			1-4Q						
Dual Band Radar CDR			1Q						
Advanced Arresting Gear Milestone B			1Q						
Operational Tests OT-B1			2-3Q						
EMALS SFR			2Q						
CVN 21 SFR			3Q						
EMALSP PDR			3Q						
EMALS CDR 1			4Q						
Advanced Arresting Gear CDR 1			4Q						
CVN 21 PDR				1Q					
Developmental Tests DT A-2				1-4Q					
AAG CDR 2				1Q					
EMALS CDR 2				2Q					
EMALS TRR 1(HALT/HCT)				4Q					
CVN 21 CDR					1Q				
Developmental Tests DT-B1					1-4Q				
Operational Tests OT-B2					1-4Q				
CVN 21 DAB PR					2Q				
AAG TRR 1 (DT/OA)					2Q				
EMALS TRR 2 (DT/OA)					4Q				
CVN 21 Construction Contract Award						1Q			
CVN 21 SCN Full Funding						1Q			
Developmental Tests DT-B1						1-4Q			
Operational Tests OT-B3						1-4Q			
EMALS LRIP						4Q			
AAG TRR 2 (DT/OA)							1Q		
Developmental Tests DT-B1							1Q		
Operational Tests OT-B4							1-4Q		
Developmental Tests DT-B2							3-4Q		
Developmental Tests DT-B2								1-4Q	
AAG LRIP									1Q
Operational Tests OT-B5									1-4Q
Developmental Tests DT-B3									2-4Q

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: Feburary 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME Ship Contract Design/LFT&E 0604567N				PROJECT NUMBER AND NAME 1803 Ship Contract Design			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	1.731	1.696	11.538	6.465	4.723	4.753	4.753	4.716
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Mission Description and Budget Item Justification: This project supports development of all technical, programmatic and contractual documentation required for the acquisition of various ships in the Navy's Shipbuilding Program. The major effort is the engineering development of the technical and contractual definition of the ship's design (e.g. ship specifications and drawings), with sufficient details for the prospective shipbuilder to make a sound estimate of construction cost and schedule. It also serves as the technical definition from which the shipbuilder develops the shipbuilding detailed design and testing package required to build and test the ship. This funding also provides for Navy retention of unique ship design knowledge. It provides the Navy with a digital, ship design knowledge base, including lessons learned, required to ensure that a proper development, analysis and evaluation can be conducted of any current or future planned Navy ship. This data base will serve as the basis to evaluate and qualify any future ship design. Another area this project funds is the development of specific Navy ship criteria and standards for newly developed technologies. Additionally, as new laws are passed, new safety regulations and environmental criteria are developed and other legal/Congressional requirements identified, this project funds the translation into Navy ship design criteria and standards. This project also funds the translation of the traditional Ship Specifications into performance-based criteria, which will serve for the future acquisition of Navy Ship and supports the development of design methodologies/tools which facilitate and optimize the transition from ship design documents to efficient production of new ships and ship conversions.

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 24 of 70)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: Feburary 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA5	PROGRAM ELEMENT NUMBER AND NAME Ship Contract Design/LFT&E 0604567N	PROJECT NUMBER AND NAME 1803 Ship Contract Design																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 40%;">Cruiser Modernization Program</td><td style="width: 10%;">FY 04</td><td style="width: 10%;">FY 05</td><td style="width: 10%;">FY 06</td><td style="width: 10%;">FY 07</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td>1.731</td><td>0.000</td><td>11.538</td><td>6.465</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table>					Cruiser Modernization Program	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	1.731	0.000	11.538	6.465	RDT&E Articles Quantity				
Cruiser Modernization Program	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	1.731	0.000	11.538	6.465															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 60px;">Continued CG Planning Yard modernization design and engineering efforts; continued government efforts for design products, data base development, specifications development, and program planning; and continued system integration efforts for Baseline 4 lead ship system procurement awards in FY04. Initiate CG Planning Yard modernization design and engineering efforts; government efforts for design products, data base development, specifications development, and program planning; and system integration efforts for shipboard systems leading to Baseline 2 lead ship procurement award.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 40%;">Sea Base Connector</td><td style="width: 10%;">FY 04</td><td style="width: 10%;">FY 05</td><td style="width: 10%;">FY 06</td><td style="width: 10%;">FY 07</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td>0.000</td><td>1.696</td><td>0.000</td><td>0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table>					Sea Base Connector	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	1.696	0.000	0.000	RDT&E Articles Quantity				
Sea Base Connector	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	1.696	0.000	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 60px;">This profile provides for pre-systems acquisition efforts to include: Functional Area Analysis, Concept Studies, the development of an Initial Capabilities Document (ICD), Feasibility Studies and the Analysis of Alternatives that supports the Capabilities Development phase leading to Systems Acquisition and Milestone A.</div>																			

R-1 SHOPPING LIST - Item No. 116

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: Feburary 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME Ship Contract Design/LFT&E 0604567N	PROJECT NUMBER AND NAME 1803 Ship Contract Design		

C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
Previous President's Budget:	7.549	10.249	18.792	18.813
Current President's Budget:	1.731	1.696	11.538	6.465
Total Adjustments	-5.818	-8.553	-7.254	-12.348
Summary of Adjustments				
Congressional undistributed reductions	-0.031	-0.015		
SBIR reductions	-0.033			
Inflation Adjustments				
Programmatic Adjustments		-8.538	-7.254	-12.348
LCAC Program restructure and PE realignment	-5.750			
Cancelled Accounts	-0.004			
NSWC Rate Adjustments				
Subtotal	-5.818	-8.553	-7.254	-12.348

Schedule:

CG Modernization procurement contract awards reflect Baseline 2 lead ship funded for long lead equipment procurement in FY06 and modernization availability in FY08. Baseline 3 and Baseline 4 lead ships are funded for procurement in the outyears. Design efforts funded in RDT&E,N leading to procurement contract awards have been scheduled accordingly.

Technical:

Not Applicable.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: Feburary 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME Ship Contract Design/LFT&E 0604567N			PROJECT NUMBER AND NAME 1803 Ship Contract Design					

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
OPN 096000 CG Modernization	42	0	135	238	296	298	399	475	900	2,783
WPN 422300 CG Modernization	9	0	5	16	21	45	47	48	300	492
O&MN 1B5B CG Modernization	8	0	44	141	150	137	130	128	1,800	2,538
Sea Base Connector										
RDT&E 0603564 3127	0.000	0.000	14.415	13.849	13.569	0.000	0.000	0.000	0.000	41.833
RDT&E 0603564 3133	0.000	0.000	0.000	0.000	18.156	22.395	8.816	1.719	0.000	51.086
SCN 0204411N 5112	0.000	0.000	0.000	0.000	0.000	0.000	99.088	209.027	0.000	308.115

E. ACQUISITION STRATEGY:

N/A

F. MAJOR PERFORMERS:

N/A

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)												DATE: Feburary 2005			
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-5			PROGRAM ELEMENT Ship Contract Design/LFT&E 0604567N				PROJECT NUMBER AND NAME 1803 Ship Contract Design								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
CG Mod Class Design/Integration	SS/CPAF	Northrop Grumman, Pascagoula, MS		0.768	02/04	0.000	11/04	8.725	11/05	5.790	11/06		15.283		
CG Mod Electronic Systems Eng	C/CPAF	LMGES, Moorestown, NJ		0.963	02/04	0.000	11/04	2.813	11/05	0.675	11/06		4.451		
S B Connector Conc. Dev./AoA	C/CPFF	TBD				1.696	12/04						1.696		
													0.000		
													0.000		
													0.000		
													0.000		
Subtotal Product Development				1.731		1.696		11.538		6.465		0.000	21.430		
Remarks:															
HLCAC Government Engineering Sp	MISC	NSWC DD: Panama City											0.000		
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
Subtotal Support				0.000		0.000		0.000		0.000		0.000	0.000		
Remarks:															

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)											DATE: Feburary 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDTE&E, N / BA-5			Ship Contract Design LFT&E 0604567N			1803 Ship Contract Design								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
HLCACTravel													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
Total Cost			CONT.	1.731		1.696		11.538		6.465		CONT.	21.430	
Remarks:														

R-1 SHOPPING LIST - Item No. 116

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																									DATE: February 2005							
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME								PROJECT NUMBER AND NAME																			
RDT&E, N / BA-5					Ship Contract Design/LFT&E 0604567N								1803 Ship Contract Design																			
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones																																
CG Baseline 4 Contract Design	<div></div>																															
CG Baseline 2 Contract Design					<div></div>																											
CG Baseline 3 Contract Design									<div></div>																							
Sea Base Connector ICD and AoA PE realignment in FY06 and beyond					<div></div>																											
Test & Evaluation Milestones																																
CG Modernization: Susceptibility & Vulnerability Analyses	<div></div>																															
Recoverability Analyses	<div></div>																															
Total Ship Survivability Trial																																
Vulnerability Analysis Report																																
Production Milestones																																
CG Modernization: System Procurement Awards	<div></div>								<div></div>				<div></div>				<div></div>				<div></div>				<div></div>				<div></div>			
Deliveries																					1					2				2		

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: Feburary 2005		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E, N / BA-5	Ship Contract Design/LFT&E 0604567N				1803 Ship Contract Design			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Cruiser Modernization								
Continue CG Baseline 4 Engineering	1Q	1Q	1Q	1Q	1Q	1Q	1Q	1Q
Continue CG Baseline 2 Engineering		1Q	1Q	1Q	1Q	1Q	1Q	1Q
Continue CG Baseline 3 Engineering			1Q	1Q	1Q	1Q	1Q	1Q
Initiate CG Susceptibility and Vulnerability Analyses	1Q							
Initiate CG Recoverability Analyses	1Q							
CGM Procurement Award	1Q							
CGM Procurement Award			1Q					
CGM Procurement Award				1Q				
CGM Procurement Award				1Q				
CGM Procurement Award					1Q			
CGM Procurement Award					1Q			
CGM Procurement Award						1Q		
CGM Procurement Award						1Q		
CGM Procurement Award							1Q	
CGM Procurement Award							1Q	
CGM Procurement Award								1Q
CGM Procurement Award								1Q
CGM Procurement Award								1Q
Sea Base Connector								
Initiate/Complete ICD and AoA		1Q						

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 31 of 70)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME Ship Contract Design/LFT&E 0604567N				PROJECT NUMBER AND NAME 2198 LFT&E			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	4.213	0.000	2.745	1.563	0.000	0.000	0.000	0.000
RDT&E Articles Qty								
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project provides for the development and performance of Live Fire Test and Evaluation analyses, tests, trials, and other engineering information required to fulfill statutory and programmatic requirements for combat effective naval warfare for the Cruiser Modernization Program.								

R-1 SHOPPING LIST - Item No. 116

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 32 of 70)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: Feburary 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME Ship Contract Design/LFT&E 0604567N	PROJECT NUMBER AND NAME 2198 LFT&E		
B. Accomplishments/Planned Program				
Cruiser Modernization Program	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	4.213	0.000	2.745	1.563
RDT&E Articles Quantity				
<p>Perform suseptibility, vulnerability, and recoverability analyses for the Cruiser Modernization Program. Continue planning and preparations for the Total Ship Survivability Trial planned for FY09.</p>				

R-1 SHOPPING LIST - Item No. 116

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: Feburary 2005																																																								
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / EBA-5	PROGRAM ELEMENT NUMBER AND NAME Ship Contract Design/LFT&E 0604567N	PROJECT NUMBER AND NAME 2198 LFT&E																																																									
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 10%; text-align: right;">FY 2004</th> <th style="width: 10%; text-align: right;">FY 2005</th> <th style="width: 10%; text-align: right;">FY 2006</th> <th style="width: 10%; text-align: right;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>Previous President's Budget:</td> <td style="text-align: right;">4.394</td> <td style="text-align: right;">4.474</td> <td style="text-align: right;">2.722</td> <td style="text-align: right;">1.545</td> </tr> <tr> <td>Current President's Budget:</td> <td style="text-align: right;">4.213</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">2.745</td> <td style="text-align: right;">1.563</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-0.181</td> <td style="text-align: right; border-top: 1px solid black;">-4.474</td> <td style="text-align: right; border-top: 1px solid black;">0.023</td> <td style="text-align: right; border-top: 1px solid black;">0.018</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional undistributed reductions</td> <td style="text-align: right;">-0.049</td> <td></td> <td></td> <td></td> </tr> <tr> <td> SBIR reduction</td> <td style="text-align: right;">-0.121</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional reduction</td> <td></td> <td style="text-align: right;">-4.474</td> <td></td> <td></td> </tr> <tr> <td> Misc. Adjustments</td> <td></td> <td></td> <td style="text-align: right;">0.023</td> <td style="text-align: right;">0.018</td> </tr> <tr> <td> Cancelled Account</td> <td style="text-align: right;">-0.011</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Subtotal</td> <td style="text-align: right;">-0.181</td> <td style="text-align: right;">-4.474</td> <td style="text-align: right;">0.023</td> <td style="text-align: right;">0.018</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule:</p> <p>CG Modernization LFT&E efforts are funded in RDT&E,N and have been scheduled consistent with the lead ship Total Ship Survivability Trial and Vulnerability Analysis Report in FY09.</p> <p style="margin-top: 20px;">Technical:</p> <p>Not Applicable.</p>						FY 2004	FY 2005	FY 2006	FY 2007	Previous President's Budget:	4.394	4.474	2.722	1.545	Current President's Budget:	4.213	0.000	2.745	1.563	Total Adjustments	-0.181	-4.474	0.023	0.018	Summary of Adjustments					Congressional undistributed reductions	-0.049				SBIR reduction	-0.121				Congressional reduction		-4.474			Misc. Adjustments			0.023	0.018	Cancelled Account	-0.011				Subtotal	-0.181	-4.474	0.023	0.018
	FY 2004	FY 2005	FY 2006	FY 2007																																																							
Previous President's Budget:	4.394	4.474	2.722	1.545																																																							
Current President's Budget:	4.213	0.000	2.745	1.563																																																							
Total Adjustments	-0.181	-4.474	0.023	0.018																																																							
Summary of Adjustments																																																											
Congressional undistributed reductions	-0.049																																																										
SBIR reduction	-0.121																																																										
Congressional reduction		-4.474																																																									
Misc. Adjustments			0.023	0.018																																																							
Cancelled Account	-0.011																																																										
Subtotal	-0.181	-4.474	0.023	0.018																																																							

R-1 SHOPPING LIST - Item No. 116

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:		Feburary 2005	
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME					
RDT&E, N / BA-5			Ship Contract Design/LFT&E 0604567N			2198 LFT&E					

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
OPN 096000 CG Modernization	42	0	135	238	296	298	399	475	900	2,783
WPN 422300 CG Modernization	9	0	5	16	21	45	47	48	300	492
O&MN 1B5B CG Modernization	8	0	44	141	150	137	130	128	1,800	2,538

E. ACQUISITION STRATEGY:

Coast wide competitive procurement.

F. MAJOR PERFORMERS:

TBD

R-1 SHOPPING LIST - Item No. 116

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)												DATE: Feburary 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDTE&E, N / BA-5			Ship Contract Design/LFT&E 0604567N			2198 LFT&E								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Product Development			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)												DATE: Feburary 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT Ship Contract Design/LFT&E 0604567N			PROJECT NUMBER AND NAME 2198 LFT&E								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
CG Modernization LFT&E	MISC	NRL/Grayhawk		4.213	10/03	0.000	10/03	2.745	10/03	1.563	10/04	0.000	8.521	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal T&E			0.000	4.213		0.000		2.745		1.563		0.000	8.521	
Remarks:														
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
Total Cost			0.000	4.213		0.000		2.745		1.563		0.000	8.521	
Remarks:														

R-1 SHOPPING LIST - Item No. 116

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																										DATE:						
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME																
RDT&E, N / BA-5				Ship Contract Design/LFT&E 0604567N												2198 LFT&E																
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones																																
Test & Evaluation Milestones																																
Susceptibility & Vulnerability Analyses																																
Recoverability Analyses																																
Total Ship Survivability Trial Vulnerability Analysis Report																																
Production Milestones																																
CG Modernization System Procurement Awards																																
Deliveries																																

R-1 SHOPPING LIST - Item No. 116

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 39 of 70)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604567N Ship Contract Design / LFT&E				PROJECT NUMBER AND NAME 2465 LHA(R)			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	53.572	43.753	22.194	46.451	32.657	15.781	12.001	18.254
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION (CONTINUED):

FY 2004 LHA(R) FLIGHT 0 EXECUTION:

(U) (\$53.572M): Complete requirements trades and feasibility studies toward a more aviation focused LHA(R) Flight 0 configuration. Continue resolution of engineering/design issues and development of the Preliminary and Contract Designs. Continue improvements targeted at reducing operating and support costs. Continue warfare system design refinement. Resolve low confidence areas in analytical models for Live Fire Test and Evaluation (LFT&E) concerns and continue the LFT&E surrogate test program.

FY 2005-2007 LHA(R) FLIGHT 0/1 PLAN:

(U) (\$112.398M): Continue the integration of design improvements into the Total Ship Design. Continue developing functional and system level design and transition these efforts into the total ship engineering package that forms the basis for the solicitation package for the detail design and construction of the ships. Tasks to include analysis and engineering to support ship design management; design integration; hull systems; machinery; warfare systems; command, control, communication, computers, intelligence (C4I) systems; human system integration; mission systems; aviation systems and total ship survivability. Tasks will also include LFT&E analysis of surrogate test data and determining feasibility of incorporating lessons learned on LHA(R) Flight 0 or Flight 1.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA5	PROGRAM ELEMENT NUMBER AND NAME 0604567N Ship Contract Design / LFT&E	PROJECT NUMBER AND NAME 2465 LHA(R)		
B. Accomplishments/Planned Program				
LHA(R) Flt 0	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	53.572	39.053	3.500	0.000
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 10px; min-height: 60px;"> Continue preliminary design/contract design efforts leading to shipbuilding contract award for LHA(R) Flt 0. Resolve design issues and initiate the contract data package, including design drawings and specifications. Continue Total Ship Integration through the Integrated Process and Product Development (IPPD) process to incorporate design improvements. Continue development of system decision data packages. Continue susceptibility assessments. Resolve low confidence areas in analytical models for Live Fire Test and Evaluation (LFT&E) concerns and continue the LFT&E surrogate test program. </div>				
LHA(R) Flt 1	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	4.700	18.694	46.451
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 10px; min-height: 60px;"> Commence studies to support requirements definition for LHA(R) Flt 1. </div>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 10px; min-height: 40px;"></div>				

R-1 SHOPPING LIST - Item No. 116

UNCLASSIFIED

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																								
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604567N Ship Contract Design / LFT&E	PROJECT NUMBER AND NAME 2465 LHA(R)																																																									
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;">Funding:</th> <th style="text-align: right; width: 15%;">FY 2004</th> <th style="text-align: right; width: 15%;">FY 2005</th> <th style="text-align: right; width: 15%;">FY 2006</th> <th style="text-align: right; width: 15%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>FY 2005 President's Budget</td> <td style="text-align: right;">64.137</td> <td style="text-align: right;">44.180</td> <td style="text-align: right;">40.232</td> <td style="text-align: right;">45.991</td> </tr> <tr> <td>FY 2006 President's Budget</td> <td style="text-align: right;">53.572</td> <td style="text-align: right;">43.753</td> <td style="text-align: right;">22.194</td> <td style="text-align: right;">46.451</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-10.565</td> <td style="text-align: right; border-top: 1px solid black;">-0.427</td> <td style="text-align: right; border-top: 1px solid black;">-18.038</td> <td style="text-align: right; border-top: 1px solid black;">0.460</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Non-Pay Inflation Savings</td> <td style="text-align: right;">-0.060</td> <td></td> <td></td> <td></td> </tr> <tr> <td> FY04 SBIR</td> <td style="text-align: right;">-1.242</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Programmatic/Other Adjustments</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">-0.427</td> <td style="text-align: right;">-18.038</td> <td style="text-align: right;">0.460</td> </tr> <tr> <td> Cancelled Account Liability</td> <td style="text-align: right;">-0.163</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Omnibus Reprogramming</td> <td style="text-align: right;">-9.100</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">-10.565</td> <td style="text-align: right; border-top: 1px solid black;">-0.427</td> <td style="text-align: right; border-top: 1px solid black;">-18.038</td> <td style="text-align: right; border-top: 1px solid black;">0.460</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule:</p> <p style="margin-left: 20px;">Contract design and Live Fire Test and Evaluation (LFT&E) efforts to support LHA(R) Flight 0 shipbuilding contract award in FY07 and LHA(R) Flight 1 shipbuilding contract award in FY10.</p> <p style="margin-top: 20px;">Technical:</p>					Funding:	FY 2004	FY 2005	FY 2006	FY 2007	FY 2005 President's Budget	64.137	44.180	40.232	45.991	FY 2006 President's Budget	53.572	43.753	22.194	46.451	Total Adjustments	-10.565	-0.427	-18.038	0.460	Summary of Adjustments					Non-Pay Inflation Savings	-0.060				FY04 SBIR	-1.242				Programmatic/Other Adjustments	0.000	-0.427	-18.038	0.460	Cancelled Account Liability	-0.163				Omnibus Reprogramming	-9.100				Subtotal	-10.565	-0.427	-18.038	0.460
Funding:	FY 2004	FY 2005	FY 2006	FY 2007																																																							
FY 2005 President's Budget	64.137	44.180	40.232	45.991																																																							
FY 2006 President's Budget	53.572	43.753	22.194	46.451																																																							
Total Adjustments	-10.565	-0.427	-18.038	0.460																																																							
Summary of Adjustments																																																											
Non-Pay Inflation Savings	-0.060																																																										
FY04 SBIR	-1.242																																																										
Programmatic/Other Adjustments	0.000	-0.427	-18.038	0.460																																																							
Cancelled Account Liability	-0.163																																																										
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Subtotal	-10.565	-0.427	-18.038	0.460																																																							

R-1 SHOPPING LIST - Item No.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604567N Ship Contract Design / LFT&E			PROJECT NUMBER AND NAME 2465 LHA(R)					

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
SCN 304100 LHA(R) Flight 0	0.0	149.4	150.4	1,215.1	1,233.5	0.0	0.0	0.0	0.0	2,748.4
SCN 304100 LHA(R) Flight 0 (Outfitting)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCN 304100 LHA(R) Flight 1	0.0	0.0	0.0	0.0	0.0	0.0	1,994.5	1,788.4	0.0	3,782.9

E. ACQUISITION STRATEGY:

Preliminary design for Flight 0 will be conducted 3QFY04 through 4QFY05. Milestone B is currently scheduled for 1QFY06. Construction contract award is planned 1QFY07 for Flight 0.

F. MAJOR PERFORMERS:

NSWC, Carderock (Bethesda, MD) - Funds have been provided for preliminary and contract design. Specific efforts include ship design management, design integration, hull systems engineering, machinery control, human system integration, mission systems and total ship survivability analysis for preliminary and contract design. Additionally, the activity will function as Live Fire Test and Evaluation (LFT&E) manager, perform/conduct surrogate tests and develop survivability analysis.

CSC Corp. - Funds have been provided for preliminary and contract design. Specific efforts include ship design management, design integration, hull systems engineering, machinery control, human system integration, mission systems and total ship survivability analysis for preliminary and contract design.

NGSS - Funds have been provided for preliminary and contract design including ship design management, design integration, hull systems engineering, machinery control, human system integration, mission systems and total ship survivability analysis for preliminary and contract design.

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME							
RDT&E, N / BA-5			0604567N Ship Contract Design / LFT&E				2465 LHA(R)							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development														
Ancillary Hardware Development														
Component Development														
Ship Design	Various	Various	0.000	31.625	12/03	20.729	10/04	10.790	10/05	25.143	10/06			
Ship Suitability														
Systems Engineering	Various	Various	0.000	9.047	12/03	17.490	10/04	7.583	10/05	18.536	10/06			
Training Development														
Licenses														
Tooling														
GFE														
Award Fees														
Subtotal Product Development			0.000	40.672		38.219		18.373		43.679				
Remarks:														
Development Support														
Software Development														
Training Development														
Integrated Logistics Support														
Configuration Management														
Technical Data														
GFE														
Award Fees														
Subtotal Support			0.000	0.000		0.000		0.000		0.000				
Remarks:														

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME								
RDT&E, N / BA-5			0604567N Ship Contract Design / LFT&E				2465 LHA(R)								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Developmental Test & Evaluation															
Operational Test & Evaluation	Reimb.	NSWC/Carderock				0.438	10/04	0.473	10/05	0.401	10/06				
Live Fire Test & Evaluation	Reimb.	NSWC/Carderock		12.900	12/03	5.096	10/04	3.348	10/05	2.371	10/06				
Test Assets															
Tooling															
GFE															
Award Fees															
Subtotal T&E			0.000	12.900		5.534		3.821		2.772					
Remarks:															
Contractor Engineering Support															
Government Engineering Support															
Program Management Support															
Travel															
Labor (Research Personnel)															
SBIR Assessment															
Subtotal Management			0.000	0.000		0.000		0.000		0.000					
Remarks:															
Total Cost			0.000	53.572		43.753		22.194		46.451					
Remarks:															

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:				February 2005				
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-5									0604567N Ship Contract Design / LFT&E												2465 LHA(R)											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones																																
Overarching Integrated Product Team Review						△									△																	
Preliminary Design - Flight 0			△					△																								
Detailed Design - Flight 0									△												△											
Feasibility Studies - Flight 1							△		△																							
Trade Studies and Point Design - Flight 1					△		△																									
Milestones									△		Milestone B										△		Program Review									
Preliminary/ Contract Design - Flight 1										△											△											
Test & Evaluation Milestones																																
Flt 0/1 Surrogate Testing		△				△																										
Production Milestones																																
Shipbuilding Contract Award - Flight 0													△																			
Lay Keel - Flight 0																			△													

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 47 of 70)

UNCLASSIFIED

CLASSIFICATION: UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification					DATE: FEBRUARY 2005					
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA5	PROGRAM ELEMENT NUMBER AND NAME 0604567N Ship Contract Design / LFT&E	PROJECT NUMBER AND NAME 9389/LHD 8 Performance Based Logisitics (PBL)								
B. Accomplishments/Planned Program										
	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11		
Accomplishments/Effort/Subtotal Cost	1.347	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
RDT&E Articles Quantity										
<p>Establish and operate a PBL Working Group to develop and implement the PBL strategy and plan for LHD 8. LHD 8 Propulsion, Power Generation, and Power Management systems are comprised primarily of new development items and Commerical Off The Shelf (COTS) items that are not presently supported in the Navy's existing logistics support system infrastructure. The integrated logistics support requirements for these systems including material, technical documentation, training, maintenance, system engineering and life cycle support processes and deliverables that must be in place at the time of the LHD 8 delivery to ensure adequate post-delivery and life cycle support of the vessel must be adequately defined.</p>										
	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11		
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
RDT&E Articles Quantity										
	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11		
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
RDT&E Articles Quantity										

R-1 SHOPPING LIST - Item No. 116

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CLASSIFICATION: UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2005																																													
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604567N Ship Contract Design / LFT&E	PROJECT NUMBER AND NAME 9389/LHD 8 Performance Based Logistics (PBL)																																													
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 40%;"></th><th style="width: 10%; text-align: right;">FY 2004</th><th style="width: 10%; text-align: right;">FY 2005</th><th style="width: 10%; text-align: right;">FY 2006</th><th style="width: 10%; text-align: right;">FY 2007</th></tr></thead><tbody><tr><td>Funding:</td><td></td><td></td><td></td><td></td></tr><tr><td>FY05 President's Budget</td><td style="text-align: right;">1.384</td><td style="text-align: right;">0.000</td><td style="text-align: right;">0.000</td><td style="text-align: right;">0.000</td></tr><tr><td>FY06 President's Budget</td><td style="text-align: right;">1.347</td><td style="text-align: right;">0.000</td><td style="text-align: right;">0.000</td><td style="text-align: right;">0.000</td></tr><tr><td>Total Adjustments</td><td style="text-align: right; border-top: 1px solid black;">-0.037</td><td style="text-align: right; border-top: 1px solid black;">0.000</td><td style="text-align: right; border-top: 1px solid black;">0.000</td><td style="text-align: right; border-top: 1px solid black;">0.000</td></tr><tr><td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td></tr><tr><td>Non-Pay Inflation Savings</td><td style="text-align: right;">-0.001</td><td></td><td></td><td></td></tr><tr><td>FY04 SBIR</td><td style="text-align: right;">-0.036</td><td></td><td></td><td></td></tr><tr><td>Subtotal</td><td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.037</td><td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">0.000</td><td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">0.000</td><td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">0.000</td></tr></tbody></table> <p style="margin-top: 20px;">Schedule:</p> <p style="margin-left: 20px;">Not Applicable</p> <p style="margin-top: 20px;">Technical:</p> <p style="margin-left: 20px;">Not Applicable.</p>				FY 2004	FY 2005	FY 2006	FY 2007	Funding:					FY05 President's Budget	1.384	0.000	0.000	0.000	FY06 President's Budget	1.347	0.000	0.000	0.000	Total Adjustments	-0.037	0.000	0.000	0.000	Summary of Adjustments					Non-Pay Inflation Savings	-0.001				FY04 SBIR	-0.036				Subtotal	-0.037	0.000	0.000	0.000
	FY 2004	FY 2005	FY 2006	FY 2007																																											
Funding:																																															
FY05 President's Budget	1.384	0.000	0.000	0.000																																											
FY06 President's Budget	1.347	0.000	0.000	0.000																																											
Total Adjustments	-0.037	0.000	0.000	0.000																																											
Summary of Adjustments																																															
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FY04 SBIR	-0.036																																														
Subtotal	-0.037	0.000	0.000	0.000																																											

R-1 SHOPPING LIST - Item No. 116

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005																						
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604567N Ship Contract Design / LFT&E			PROJECT NUMBER AND NAME 9389/LHD 8 Performance Based Logistics (PBL)																								
<p>D. OTHER PROGRAM FUNDING SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Line Item No. & Name</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2004</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2005</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2006</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2007</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2008</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2009</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2010</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2011</th> <th style="text-align: right; border-bottom: 1px solid black;">Total Cost</th> </tr> </thead> <tbody> <tr> <td style="padding-top: 10px;">SCN 303500 LHD 8 *</td> <td style="text-align: center; padding-top: 10px;">351.7</td> <td style="text-align: center; padding-top: 10px;">235.1</td> <td style="text-align: center; padding-top: 10px;">197.8</td> <td style="text-align: center; padding-top: 10px;">0</td> <td style="text-align: center; padding-top: 10px;">0</td> <td style="text-align: center; padding-top: 10px;">0</td> <td style="text-align: center; padding-top: 10px;">0</td> <td style="text-align: center; padding-top: 10px;">0</td> <td style="text-align: right; padding-top: 10px;">784.6</td> </tr> </tbody> </table> <p style="margin-top: 20px;">*LHD 8 is an incrementally funded program with funding in FY99-06.</p> <p>E. ACQUISITION STRATEGY:</p> <p style="margin-top: 10px;">The acquisition strategy for this effort includes participation from both Government activities and industry (Northrop Grumman Ship Systems (NGSS)).</p> <p>F. MAJOR PERFORMERS:</p> <p style="margin-top: 10px;">Northrop Grumman Ship Systems (NGSS)</p>										Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost	SCN 303500 LHD 8 *	351.7	235.1	197.8	0	0	0	0	0	784.6
Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost																				
SCN 303500 LHD 8 *	351.7	235.1	197.8	0	0	0	0	0	784.6																				

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CLASSIFICATION: UNCLASSIFIED

Exhibit R-3 Cost Analysis (page 1)										DATE: FEBRUARY 2005				
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-5			PROGRAM ELEMENT 0604567N Ship Contract Design / LFT&E			PROJECT NUMBER AND NAME 9389/LHD 8 Performance Based Logistics (PBL)								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development														
Ancillary Hardware Development														
Component Development														
Ship Design														
Ship Suitability														
Systems Engineering														
Training Development														
Licenses														
Tooling														
GFE														
Award Fees														
Subtotal Product Development			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
Development Support														
Software Development														
Training Development														
Integrated Logistics Support	Various	NGSS/Gov't Activities		1.347	Various								1.347	0.970
Configuration Management														
Technical Data														
GFE														
Award Fees														
Subtotal Support			0.000	1.347		0.000		0.000		0.000		0.000	1.347	
Remarks: Modification to existing shipbuilding contract to NGSS														

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 51 of 70)

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CLASSIFICATION: UNCLASSIFIED

Exhibit R-3 Cost Analysis (page 1) (continued)										DATE: FEBRUARY 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-5			0604567N Ship Contract Design / LFT&E			9389/LHD 8 Performance Based Logistics (PBL)								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation														
Operational Test & Evaluation														
Live Fire Test & Evaluation														
Test Assets														
Tooling														
GFE														
Awrad Fees														
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
Contractor Engineering Support														
Government Engineering Support														
Program Management Support														
Travel														
Transportation														
SBIR Assessment														
GFE														
Subtotal Management			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
Total Cost			0.000	1.347		0.000		0.000		0.000		0.000	1.347	

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CLASSIFICATION: UNCLASSIFIED

EXHIBIT R4, Schedule Profile																								Date: FEBRUARY 2005								
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME																		PROJECT NUMBER AND NAME									
RDT&E, N / BA-5					0604567N Ship Contract Design / LFT&E																		9389/LHD 8 Performance Based Logistics (PBL)									
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones																																
Test & Evaluation Milestones																																
Production Milestones																																
Establish Working Group	△	△																														
Initiate Plan/Req Determination		△							△																							
Final Report									△																							
Deliveries																																

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 54 of 70)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME Ship Contract Design/LFT&E 0604567N				PROJECT NUMBER AND NAME 9578 Integrated Modernization Environment			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	0.000	1.970	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project will develop an NMCI compatible Integrated Modernization Environment (IME) with a real time information sharing capability to improve the ability to manage program information and facilitate collaboration engineering. Post implementation Planning efforts in developing future system upgrade and maintenance requirements after completion of the initial phase will also be completed.								

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 55 of 70)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME Ship Contract Design/LFT&E 0604567N	PROJECT NUMBER AND NAME 9578 Integrated Modernization Environment		
B. Accomplishments/Planned Program				
Cruiser Modernization Program	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	1.970	0.000	0.000
RDT&E Articles Quantity				
<p>Develop a web based IME, define initial configuration requirements, configure Integrated Modernization Environment and develop a long-term implementation plan. Initial CG Modernization populated web based IME will be accomplished before the end of FY 07.</p>				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: Feburary 2005																																									
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / EBA-5	PROGRAM ELEMENT NUMBER AND NAME Ship Contract Design/LFT&E 0604567N	PROJECT NUMBER AND NAME 9578 Integrated Modernization Environment																																										
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 10%; text-align: right;">FY 2004</th> <th style="width: 10%; text-align: right;">FY 2005</th> <th style="width: 10%; text-align: right;">FY 2006</th> <th style="width: 10%; text-align: right;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>Previous President's Budget:</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>Current President's Budget:</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">1.970</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">1.970</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td style="padding-left: 20px;">Undistributed Congressional Reductions</td> <td></td> <td style="text-align: right;">-0.030</td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Congressional Add</td> <td></td> <td style="text-align: right;">2.000</td> <td></td> <td></td> </tr> <tr> <td style="padding-top: 10px;">Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">1.970</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> </tr> </tbody> </table> <p>Schedule:</p> <p>CG Modernization IME efforts are funded in RDT&E,N and have been scheduled consistent with the lead ship, CG52, Depot Modernization Period that will be executed in FY 08.</p> <p>Technical:</p> <p>Not Applicable.</p>						FY 2004	FY 2005	FY 2006	FY 2007	Previous President's Budget:	0.000	0.000	0.000	0.000	Current President's Budget:	0.000	1.970	0.000	0.000	Total Adjustments	0.000	1.970	0.000	0.000	Summary of Adjustments					Undistributed Congressional Reductions		-0.030			Congressional Add		2.000			Subtotal	0.000	1.970	0.000	0.000
	FY 2004	FY 2005	FY 2006	FY 2007																																								
Previous President's Budget:	0.000	0.000	0.000	0.000																																								
Current President's Budget:	0.000	1.970	0.000	0.000																																								
Total Adjustments	0.000	1.970	0.000	0.000																																								
Summary of Adjustments																																												
Undistributed Congressional Reductions		-0.030																																										
Congressional Add		2.000																																										
Subtotal	0.000	1.970	0.000	0.000																																								

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: Feburary 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME Ship Contract Design/LFT&E 0604567N			PROJECT NUMBER AND NAME 9578 Integrated Modernization Environment				

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
OPN 096000 CG Modernization	42	0	135	238	296	298	399	475	900	2,783
WPN 422300 CG Modernization	9	0	5	16	21	45	47	48	300	492
O&MN 1B5B CG Modernization	8	0	44	141	150	137	130	128	1,800	2,538
Sea Base Connector										
RDT&E 0603564 3127	0.000	0.000	14.415	13.849	13.569	0.000	0.000	0.000	0.000	41.833
RDT&E 0603564 3133	0.000	0.000	0.000	0.000	18.156	22.395	8.816	1.719	0.000	51.086
SCN 0204411N 5112	0.000	0.000	0.000	0.000	0.000	0.000	99.088	209.027	0.000	308.115

E. ACQUISITION STRATEGY:

N/A

F. MAJOR PERFORMERS:

N/A

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)												DATE: Feburary 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDTE&E, N / BA-5			Ship Contract Design/LFT&E 0604567N			9578 Integrated Modernization Environment								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Product Development			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)											DATE: Feburary 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT Ship Contract Design/LFT&E 0604567N			PROJECT NUMBER AND NAME 9578 Integrated Modernization Environment								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Integrated Modernization Environment	MISC	TBD		0.000		1.970	03/05	0.000		0.000		0.000	1.970	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal			0.000	0.000		1.970		0.000		0.000		0.000	1.970	
Remarks:														
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
Total Cost			0.000	0.000		1.970		0.000		0.000		0.000	1.970	
Remarks:														

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE: Feburary 2005								
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME								PROJECT NUMBER AND NAME																			
RDT&E, N / BA-5					Ship Contract Design/LFT&E 0604567N								9578 Integrated Modernization Environment																			
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones																																
Test & Evaluation Milestones																																
Develop IME																																
Configure IME																																
Write Implementation Plan																																
Populate Data																																
Lead Ship DMP Start																																
Production Milestones																																
CG Modernization																																
System Procurement Awards																																
Deliveries																																

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 62 of 70)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				FY 2006/2007 PRESIDENT'S BUDGET SUBMISSION (\$M)				DATE: Feb 2005	
APPROPRIATION/BUDGET ACTIVITY RDTE NAVY		PROGRAM ELEMENT NUMBER AND NAME PE 0604567N (U)SHIP CONTRACT DESIGN/LIVE FIRE T&E			PROJECT NUMBER AND NAME 3134 Intratheater Connectors (Contract Design)				
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		0.000	0.000	1.941	2.247	13.899	7.984	6.873	1.378
RDT&E Articles Qty									
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: 3134 - concept studies in support of intratheater connectors. These ship systems will be capable of self-deploying to the theater of operations, provide the air and surface means to move forces and supplies over operational distances within a theater. Intratheater connectors provide the JFC a mobility asset that enables rapid force closure to the sea base from advanced bases, movement of logistics, ship-to-ship and ship-to-shore replenishment, and in appropriate threat environments, the maneuver of forces to the shore.</p> <p>The primary mission will be to provide logistical military lift from the advanced base to the sea base. The secondary missions will include the ability to provide logistical military lift from the seabase to the shore (either an austere port facility or possibly an unimproved beach) , and movement within the seabase.</p> <p>The Intratheater connector will have the following characteristics:</p> <ul style="list-style-type: none"> * Moderate payload capacity (100's to 1,000's of short tons) * Shallow draft * Self deploying and sustaining for short periods * Cross-theater laden ranges <p>Beachable and non-beachable options will be investigated.</p>									

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		FY 2006/2007 PRESIDENT'S BUDGET SUBMISSION (\$M)		DATE: Feb 2005	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME	
RDTE NAVY		PE 0604567N (U)SHIP CONTRACT DESIGN/LIVE FIRE T&E		3134 Intratheater Connectors (Contract Design)	
B. Accomplishments/Planned Program					
	FY 04	FY 05	FY 06	FY 07	
Accomplishments/Effort/Subtotal Cost	0.000	0.000	1.941	2.247	
RDT&E Articles Quantity					
Program Acquisition Efforts for Non-Beachable Intratheater Connector - including pre-acquisition studies, Initial Capabilities Document development, initial shipbuilder downselect, Capability Development Document preparation, and milestone A preparation.					
	FY 04	FY 05	FY 06	FY 07	
Accomplishments/Effort/Subtotal Cost					
RDT&E Articles Quantity					
	FY 04	FY 05	FY 06	FY 07	
Accomplishments/Effort/Subtotal Cost					
RDT&E Articles Quantity					
	FY 04	FY 05	FY 06	FY 07	
Accomplishments/Effort/Subtotal Cost					
RDT&E Articles Quantity					
	FY 04	FY 05	FY 06	FY 07	
Accomplishments/Effort/Subtotal Cost					
RDT&E Articles Quantity					
Total	0.000	0.000	1.941	2.247	

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		FY 2006/2007 PRESIDENT'S BUDGET SUBMISSION (\$M)				DATE: Feb 2005	
APPROPRIATION/BUDGET ACTIVITY RDTE NAVY		PROGRAM ELEMENT NUMBER AND NAME PE 0604567N (U)SHIP CONTRACT DESIGN/LIVE FIRE T&E			PROJECT NUMBER AND NAME 3134 Intratheater Connectors (Contract Design)		
C. PROGRAM CHANGE SUMMARY:							
Funding:		FY 2004	FY 2005	FY 2006	FY 2007		
FY05 President's Budget		0.000	0.000	0.000	0.000		
FY06President's Budget		<u>0.000</u>	<u>0.000</u>	<u>1.941</u>	<u>2.247</u>		
Total Adjustments		0.000	0.000	1.941	2.247		
Programmatic Adjustments							
ADJUSTMENT TO ADD INTRATHEATER CONNECTORS		<u>0.000</u>	<u>0.000</u>	<u>1.941</u>	<u>2.247</u>		
Total Adjustment		0.000	0.000	1.941	2.247		
Schedule:							
Not Applicable							
Technical:							
Not Applicable							

R-1 SHOPPING LIST - Item No. 116

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification									FY 2006/2007 PRESIDENT'S BUDGET SUBMISSION (\$M)		DATE:	
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME					PROJECT NUMBER AND NAME				
RDTE NAVY			PE 0604567N (U)SHIP CONTRACT DESIGN/LIVE FIRE T&E					3134 Intratheater Connectors (Contract Design)				
D. Other Program Funding Summary			FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	To Complete	Total Cost
PE 0204228N SCN/BLI3043 Intratheater Connector Surface Support								204.622	176.873	180.609	TBD	562.104
(U) Related RDT&E:												
PE 0603564N/SHIP PRELIM DESIGN & FEASIBILITY STUDIES/3131 Intratheater Connectors			0.000	0.000	4.848	11.850	5.094	3.983	1.824	2.540	0.000	30.139
E. Acquisition Strategy:												
Feasibility studies will be conducted to determine the best designs to meet new Navy requirements.												
F. Major Performers:												
Field Activities & Locations - Work Performed												
NSWC, Carderock, MD - Concept development and engineering support												
NSWC, Panama City, FL - Concept development												
NFESC Pt Hueneme CA - Concept development												
SPAWAR Systems Center, Charleston SC - Concept development and engineering support												
NAVAIR Pax River, MD - Concept development and engineering support												
Office of Naval Research, Arlington, VA - Concept Development												
Contractors & Locations - Work Performed												
CSC, Washington, DC - Engineering Support												
Universities & Locations - Work Performed												

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 67 of 70)

Exhibit R-3 Cost Analysis (page 2)								DATE:						
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT					PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			PE 0604567N (U)SHIP CONTRACT DESIGN/LIVE FIRE T&E					3134 Intratheater Connectors (Contract Design)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development													0.000	
Ancillary Hardware Development													0.000	
Aircraft Integration													0.000	
Ship Integration													0.000	
Ship Suitability													0.000	
Systems Engineering													0.000	
Training Development													0.000	
Licenses													0.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal Product Development			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
Development Support	Various	Various						0.700		0.000			0.700	
Software Development													0.000	
Integrated Logistics Support													0.000	
Configuration Management													0.000	
Technical Data								0.000					0.000	
Studies & Analyses													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal Support			0.000	0.000		0.000		0.700		0.000		0.000	0.700	
R-1 SHOPPING LIST - Item No. 116														
Remarks:														

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: Feb 2005						
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-5			PROGRAM ELEMENT PE 0603564N/SHIP PRELIM DESIGN & FEASIBILITY STUDIES					PROJECT NUMBER AND NAME 3134 Intratheater Connectors (Contract Design)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation													0.000	
Operational Test & Evaluation													0.000	
Live Fire Test & Evaluation													0.000	
Test Assets													0.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
Contractor Engineering Support	MAC	CSC						0.000		0.400	1Q		0.400	
Government Engineering Support	WX	Various						0.000		0.400	1Q		0.400	
Program management Support	MAC	CSC						1.224	1Q	1.432	1Q		2.656	
Travel	PD	NAVSEA						0.017		0.015			0.032	
Transportation													0.000	
SBIR Assessment													0.000	
Subtotal Management			0.000	0.000		0.000		1.241		2.247		0.000	3.488	
Remarks:														
Total Cost			0.000	0.000		0.000		1.941		2.247		0.000	4.188	
Remarks:														

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:				Feb 2005				
APPROPRIATION/BUDGET ACTIVITY								PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME												
RDT&E, N / BA-5								PE 0604567N (U)SHIP CONTRACT DESIGN/LIVE FIRE T&E												3134 Intratheater Connectors (Contract Design)												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones																			△ MSB													
DD&C Contract Award																						△										
First Follow Ship																											△					
Second Follow Ship																														△		

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* Not required for Budget Activities 1, 2, 3, and 6

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: Feb 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&BA-5	PROGRAM ELEMENT PE 0604567N (U)SHIP CONTRACT DESIGN/LIVE FIRE T&E				PROJECT NUMBER AND NAME 3134 Intratheater Connectors (Contract Design)			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
AoA Completion				2Q				
Milestone B					3Q			
Contract Award						2Q		

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 70 of 70)

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification								DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					R-1 ITEM NOMENCLATURE 0604574N / NAVY TACTICAL COMPUTER RESOURCES				
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost		12.235	8.298	2.220	2.701	2.774	2.830	2.897	2.965
1353 Standard Hardware		12.235	6.320	2.220	2.701	2.774	2.830	2.897	2.965
9579 Compact Ultra Fast Laser System Development			1.978						

A. Mission Description and Budget Item Justification: The AN/UYQ-70(V) program must incorporate state-of-the-art Commercial-off-the-Shelf/Open System Architecture (COTS/OSA) technological improvements continuously and rapidly, in order to meet rapidly evolving future customer requirements. The AN/UYQ-70(V) program provides the de facto standard for state-of-the-art commercial-off-the-shelf (COTS) processors and displays for all mission-essential/mission-critical combat systems, weapons systems, self-defense systems, command and control systems, and communications systems utilized in all USN combatants. The Q-70 product baseline continues to require increased capability in order to satisfy the needs of future FORCENET network-centric Open Architecture combat system designs. This funding also supports the continuing spiral development of Q-70 and Future Combat System Display (FCDS), which will be the standard display system for all new combat systems on all new ship designs. This FCDS development will incorporate vastly improved HSI (human systems interface) characteristics, and migration to full Open Architecture Computing Environment (OACE) requirements. Execution of FCDS is entirely dependent upon this RDT&E funding.

*FY04 includes three Congressional Adds totaling \$10.4M
Q-70 Secure Voice System - 2.550 million
Ultra Thin Client Network Solution - 1.500 million
Q-70 technology - 6.350 million

**FY05 includes two Congressional Adds totaling \$5.978M
Q-70 technology - 4.000 million
Compact Ultra Fast Laser System Development - 1.978 million

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604574N / NAVY TACTICAL COMPUTER RESOURCES			PROJECT NUMBER AND NAME; 1353/Standard Hardware 1353 Standard Hardware			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	12.235	6.320	2.220	2.701	2.774	2.830	2.897	2.965
RDT&E Articles Qty								
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>A. Mission Description and Budget Item Justification: The AN/UYQ-70(V) program must incorporate state-of-the-art Commercial-off-the-Shelf/Open System Architecture (COTS/OSA) technological improvements continuously and rapidly, in order to meet rapidly evolving future customer requirements. The AN/UYQ-70(V) program provides the de facto standard for state-of-the-art commercial-off-the-shelf (COTS) processors and displays for all mission-essential/mission-critical combat systems, weapons systems, self-defense systems, command and control systems, and communications systems utilized in all USN combatants. The Q-70 product baseline continues to require increased capability in order to satisfy the needs of future FORCENET network-centric Open Architecture combat system designs. This funding also supports the continuing spiral development of Q-70 and Future Combat System Display (FCDS), which will be the standard display system for all new combat systems on all new ship designs. This FCDS development will incorporate vastly improved HSI (human systems interface) characteristics, and migration to full Open Architecture Computing Environment (OACE) requirements. Execution of FCDS is entirely dependent upon this RDT&E funding.</p>								

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604574N / NAVY TACTICAL COMPUTER RESOURCES	PROJECT NUMBER AND NAME; 1353/Standard Hardware 1353 Standard Hardware		

B. Accomplishments/Planned Program

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	8.185	6.320	2.220	2.774
RDT&E Articles Quantity				

FY2004 Accomplishments: Continued development of Q-70 technical insertion initiatives including a replacement for the legacy SPA-25G radar, a modification to the present CND variant to meet SLQ-32 and NSSMS requirements, development of LAN security features, and development of several new operating system baselines. Requirements gathering and analysis for FCDS effort. FY04 funding includes Congressional Add of \$6.350.

FY2005 Plan: Preparation for FCDS development contract competition. Continue technology insertion efforts for production Q-70 contract. FY05 funding includes Congressional Add of \$4.0M.

FY2006 Plan: Contract award for FCDS development, and begin development of FCDS. Continue technology insertion efforts for production Q-70 contract.

FY2007 Plan: Continue development of FCDS. Continue technology insertion efforts for production Q-70 contract.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	2.550	0.000	0.000	0.000
RDT&E Articles Quantity				

FY 2004 Accomplishments: Development of modifications of the Q-70 Secure Voice System (SVS) to meet carrier class communications and environmental requirements . Funding is Congressional Add.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.500	0.000	0.000	0.000
RDT&E Articles Quantity				

FY 2004 Accomplishments: Continued development of a stateless, ultra thin client network solution that provides data separation and privacy over the network via NSA certified solution that supports secure voice, video, and data requirements of the war fighter. Funding is Congressional Add.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604574N / NAVY TACTICAL COMPUTER RESOURCES	PROJECT NUMBER AND NAME; 1353/Standard Hardware 1353 Standard Hardware		

C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
Funding:				
FY2005 President' Budget	12.521	2.381	2.472	2.984
FY2006 President's Budget	12.235	8.298	2.220	2.701
Total Adjustments	-0.286	5.917	-0.252	-0.283
Summary of Adjustments				
Non-pay Inflation Savings	-0.010			
Cancelled Accounts	-0.006			
Management Improvements	-0.270			
AN/UYQ-70 Congressional Add		4.000		
Miscellaneous Adjustments		-0.083	-0.252	-0.283
Subtotal	-0.286	3.917	-0.252	-0.283

Technical:

N/A

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: FEBRUARY 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604574N / NAVY TACTICAL COMPUTER RESOURCES			PROJECT NUMBER AND NAME 1353 Standard Hardware				
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
Other Program Funding Summary Related RDT&E										
PE 0603382N (ADV COMBAT SYS TECHNOLOGY)	14.993	66.951	30.166	30.753	31.923	32.631	33.396	34.047		
PE 0603502N (SHALLOW WATER MCM)	126.231	108.016	122.122	140.480	161.880	245.151	233.104	240.239		
PE 0604307N (AEGIS WEAPON SYS MODS)	215.584	157.159	216.313	227.951	254.972	235.232	255.320	273.179		
PE 0604366N (STD MSL IMP)	73.654	110.775	145.634	188.623	223.877	240.847	163.322	71.380		
PE 0604755N (SHIP SELF DEFENSE)	51.774	66.059	45.931	7.136	6.308	5.495	0.780	0.227		
PE 0604503N SSN-688/TRIDENT MOD	63.130	62.235	55.738	75.033	75.136	71.721	68.186	80.618		
PE 0604561N SSN-21 DEVELOPMENT	23.596	2.972	2.928	3.462	2.745	2.796	2.978	3.039		
PE 0604562N SUB TACT WARFARE SYS	31.456	48.456	40.690	55.089	57.068	58.199	59.467	60.715		
F. MAJOR PERFORMERS:										
N/A										

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Exhibit R-3 Cost Analysis (page 1)											DATE: FEBRUARY 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME; 1353/Standard Hardware								
RDT&E, N / BA-5			0604574N / NAVY TACTICAL COMPUTER RESOURCES			1353 Standard Hardware								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Various	Various	195.500										195.500	
Ancillary Hardware Development	Various	Various	0.650										0.650	
Component Development													0.000	
Ship Integration													0.000	
Ship Suitability													0.000	
Systems Engineering	Various	Various	77.222	5.000	05/04	3.547	10/04	1.247	10/05	1.682	10/06	Continuing	Continuing	
Training Development			1.000										1.000	
Licenses			1.000										1.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal Product Development			275.372	5.000		3.547		1.247		1.682		Continuing	Continuing	
Remarks:														
Development Support	Various	Various		1.000		2.000						Continuing	Continuing	
Software Development	Various	Various	39.109	0.900								Continuing	Continuing	
Training Development	Various	Various	1.375	0.200								Continuing	Continuing	
Integrated Logistics Support	Various	Various	2.172	0.300								Continuing	Continuing	
Configuration Management	Various	Various	0.700	1.920								Continuing	Continuing	
Technical Data	Various	Various	1.138	0.200								Continuing	Continuing	
GFE													0.000	
Award Fees													0.000	
Subtotal Support			44.494	4.520		2.000		0.000		0.000		Continuing	Continuing	
Remarks:														

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)											DATE: FEBRUARY 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604574N / NAVY TACTICAL COMPUTER RESOURCES			PROJECT NUMBER AND NAME; 1353/Standard Hardware 1353 Standard Hardware								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various	25.485	0.815		0.343		0.311		0.432		Continuing	Continuing	Continuing
Operational Test & Evaluation	Various	Various	17.528	0.900		0.430		0.430		0.482		Continuing	Continuing	Continuing
Live Fire Test & Evaluation														
Test Assets														
Tooling														
GFE														
Award Fees														
Subtotal T&E			43.013	1.715		0.773		0.741		0.914		Continuing	Continuing	
Remarks:														
Government Engineering Services														
Program Management Support				1.000		0.000		0.000		0.000		Continuing	Continuing	
Subtotal Management			0.000	1.000		0.000		0.000		0.000		Continuing	Continuing	
Total Cost			362.879	12.235		6.320		1.988		2.596		Continuing	Continuing	
Remarks:														

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:				FEBRUARY 2005				
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME; 1353/Standard Hardware												
RDT&E, N / BA-5										0604574N / NAVY TACTICAL COMPUTER RESOURCES										1353 Standard Hardware												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Not Applicable																																

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* Not required for Budget Activities 1, 2, 3, and 6

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 9 of 16)

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 10 of 16)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0604574N Navy Tactical Computer Resources	PROJECT NUMBER AND NAME S9579 Compact Ultra Fast Laser System Development		
B. Accomplishments/Planned Program				
Spectral Beam Comb. Fiber Lasers	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	1.978	0.000	0.000
RDT&E Articles Quantity	N/A	N/A	N/A	N/A
<p>FY 05 - Ultra-fast laser systems (systems generating pulses of light with a duration of less than 100 fs) have been employed in a wide variety of areas from material processing, medical procedures, and various diagnostics procedures. The use of ultra-fast systems in the soft kill of missile systems shows great potential, specifically in the short-range surface-to-air missile defense system role, for both military and civilian aircraft and ships. The primary issue with the available ultra-fast laser systems is that typical users have not been concerned with size, but with serviceability. A typical ultra-fast laser system is comprised of many complicated components or sub-systems that are separated to make the system adaptable to the specific requirements of the user. To date, this has made the system too large to mount on aircraft; additionally, these systems have not been rugged enough to place onboard ships. This effort would design and develop the military specifications for a compact, rugged, maritime-environment-capable, ultra-fast laser that satisfies U. S. Navy requirements.</p>				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0604574N Navy Tactical Computer Resources	PROJECT NUMBER AND NAME 9579 Compact Ultra Fast Laser System Development		

C. PROGRAM CHANGE SUMMARY:

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
Funding:				
FY2005 President's Budget	0.000	0.000	0.000	0.000
FY2006 President's Budget	0.000	1.978	0.000	0.000
Total Adjustments	0.000	1.978	0.000	0.000
Summary of Adjustments				
Congressional Increases	0.000	2.000	0.000	0.000
Congressional Rescissions	0.000	-0.022	0.000	0.000
Subtotal	0.000	1.978	0.000	0.000

Schedule:

Not Applicable.

Technical:

Not Applicable.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4		PROGRAM ELEMENT NUMBER AND NAME 0604574N Navy Tactical Computer Resources			PROJECT NUMBER AND NAME S9579 Compact Ultra Fast Laser System Development					
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
0604755N Directed Energy User Scrutiny Equip.		2.476								2.476
0603582N Multiple Items	11.994	24.204								
0205601N Spectral Beam Combining Fiber Lasers Development		0.988								
 E. ACQUISITION STRATEGY:										
Not Applicable (R&D effort only)										
F. MAJOR PERFORMERS:										
Government Field Activities: AFRL; NAVAIR; NRL; NSWC CD; NSWC Crane; NSWC DD; NSWC PHD; PMRF; SPAWAR. Academia: Argonne Laboratory; Brooks Institute; Center for Naval Analysis; Institute of Advanced Technology; Los Alamos National Laboratory; MIT; Naval Postgraduate School; Penn State University; Thomas Jefferson Laboratory; University of Texas at Austin. Contractors: Acculight; AES; Decade Optical Systems; Ionatron; Raytheon; Analytical Research; Schafer; Envisioneering; SPA; Textron; Brashear; TRW; Whitney, Bradley & Brown; General Atomics; Titan; QinetiQ; Noesis; SYS, Perot; EWA.										

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 14 of 16)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:				February 2005				
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-4									0604574N Navy Tactical Computer Resources												S9579 Compact Ultra Fast Laser System Development											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Not applicable																																

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 16 of 16)

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification								DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5						R-1 ITEM NOMENCLATURE 0604601N, Mine Development					
COST (\$ in Millions)	Prior Years Cost	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Total Program
Project Cost	172.153	1.470	6.052	15.392	15.738	16.268	5.741	5.923	6.104	Continuing	Continuing
RDT&E Articles Qty	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	0

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project is the only R&D program for mine systems, and is the sole support for the capability to maintain the effectiveness of mines facing new threat targets and increasing emphasis on major regional conflicts and littoral warfare in shallow water. Project tasks are grouped into several areas: (1) Threat Modeling/Analysis, which collects, analyzes, and develops digital models of data on current priority threat target characteristics to support computer simulations; (2) Target Detection and Response, which uses target models to develop optimal mine designs, settings, and firing algorithms; (3) Developing and upgrading Tactical Decision Aids (TDAs) to assist the warfighter in planning and placing more effective minefields; and (4) Designing and developing the 2010 Mine, which is a replacement for Underwater Mine MK 56 which is designated to be removed from service by the year 2010 due to environmental impact problems. The 2010 Mine design will include provisions for future capability upgrades. Future upgrades may include: (a) 2-way remote command & control of the minefield, (b) precision standoff delivery from aircraft, (c) an enlarged target detection and damage radius, and (d) advanced power systems for the mine.

(U) B. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY05 President's Budget	1.480	6.123	15.455	15.675
FY06 President's Budget	1.470	6.052	15.392	15.738
Total Adjustments	-0.010	-0.071	-0.063	0.063
Summary of Adjustments				
FY04 SBIR	-0.006	0.000	0.000	0.000
Congressional Adjustments		-0.054		
Miscellaneous Adjustments	-0.004	-0.017	-0.063	0.063
Subtotal	-0.010	-0.071	-0.063	0.063

(U) Schedule: Not Applicable

(U) Technical: Not Applicable

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Exhibit R-2a, RDTE Project Justification

(Exhibit R-2a, page 1 of 9)

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604601N, Mine Development	PROJECT NUMBER AND NAME 0267, Mine Development		
(U) C. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.455	4.662	12.717	12.863
RDT&E Articles Quantity				
<p><u>Product Development:</u> FY 2004 PLANS (\$0.455) System Engineering: Draft requirements for 2010 Mine.</p> <p>FY 2005 PLANS (\$4.130) Hardware Development: Initiate 2010 Mine design and development. (\$0.532) System Engineering: Initiate development of Concept of Operations and conduct other tactical analysis modeling and simulation in support of 2010 Mine development.</p> <p>FY 2006 PLANS (\$11.290) Hardware Development: Continue 2010 Mine design and development. (\$1.427) System Engineering: Conitnue development of Concept of Operations and conduct other tactical analysis modeling and simulation in support of 2010 Mine development. Initiate System Development and demonstration.</p> <p>FY 2007 PLANS (\$11.400) Hardware Development: Continue 2010 Mine design and development. (\$1.463) System Engineering: Complete development of Concept of Operations and other tactical analysis modeling and simulation in support of 2010 Mine development. Continue System Development and Demonstration.</p>				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604601N, Mine Development	PROJECT NUMBER AND NAME 0267, Mine Development																	
<p>(U) C. Accomplishments/Planned Program</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">0.873</td> <td style="text-align: center;">1.237</td> <td style="text-align: center;">1.275</td> <td style="text-align: center;">1.475</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p><u>Development Support:</u></p> <p>FY 2004 PLANS (\$0.823) Software Development: Continue development of target detection algorithms for deisel-electric mini-subs and MCM ships. Continue development of PC-based, MEDAL-compliant TDA for minefield. (\$0.050) Integrated Logistics Support (ILS).</p> <p>FY 2005 PLANS (\$1.158) Software Development: Continue development of target detection algorithms and PC-based, MEDAL-compliant TDA for minefield planning. (\$0.079) Integrated Logistics Support (ILS).</p> <p>FY 2006 PLANS (\$1.145) Software Development: Continue development of algorithms (target detection) for mini-subs, HSV/SWATH ships, and MCM ships. Continue development of PC-based, MEDAL-compliant TDAs for minefield planning. (\$0.130) Integrated Logistic Support (ILS).</p> <p>FY 2007 PLANS (\$1.322) Software Development: Continue development of algorithms (target detection) for mini-subs, HSV/SWATH ships, and MCM ships. Continue development of PC-based, MEDAL-compliant TDAs for minefield planning. (\$0.153) Integrated Logistic Support (ILS).</p> </div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.873	1.237	1.275	1.475	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.873	1.237	1.275	1.475															
RDT&E Articles Quantity																			

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005															
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604601N, Mine Development	PROJECT NUMBER AND NAME 0267, Mine Development															
(U) C. Accomplishments/Planned Program <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.142</td><td style="text-align: center;">0.153</td><td style="text-align: center;">1.400</td><td style="text-align: center;">1.400</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 10px; min-height: 300px;"><p><u>Management:</u> FY 2004 PLANS Program Management Support.</p> <p>FY 2005 PLANS Program Management Support.</p> <p>FY 2006 PLANS Program Management Support.</p> <p>FY 2007 PLANS Program Management Support.</p></div>				FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.142	0.153	1.400	1.400	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07													
Accomplishments/Effort/Subtotal Cost	0.142	0.153	1.400	1.400													
RDT&E Articles Quantity																	

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604601N, Mine Development			PROJECT NUMBER AND NAME 0267, Mine Development			

(U) D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
Line 323100, WPN										
QS Mod 3	3.164	2.969	3.018	3.135	3.254	2.967	2.964	2.901	Continuing	Continuing
2010 Mine Replacement	0.000	0.000	0.000	0.000	0.000	11.281	11.633	12.054	Continuing	Continuing
Total	3.164	2.969	3.018	3.135	3.254	14.248	14.597	14.955	Continuing	Continuing

(U) E. ACQUISITION STRATEGY:

NSWC PC, Panama City FL is teamed with other Navy activities and various contractors to design and develop the 2010 Mine as a replacement for the Mine MK56. Procurement is scheduled to start in FY09.

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Exhibit R-3 Cost Analysis (page 1)							DATE:							
February 2005														
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-5			0604601N, Mine Development			0267, Mine Development								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	RCP	NWSC-PC	106.622			4.130	12/04	11.290	12/05	11.400	12/06	Continuing	Continuing	N/A
Ancillary Hardware Development			2.158										2.158	N/A
Ship Suitability	WX	NWSC-PC	1.480	0.455	12/03	0.532	12/04	1.427	12/05	1.463	12/06	Continuing	Continuing	N/A
GFE			4.790										4.790	N/A
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Product Development			115.050	0.455		4.662		12.717		12.863		Continuing	Continuing	
Remarks:														
Software Development	WX	Various	4.644	0.823	12/03	1.158	12/04	1.145	12/05	1.322	12/06	Continuing	Continuing	N/A
Integrated Logistics Support	WX	NWSC-PC	0.270	0.050	12/03	0.079	12/04	0.130	12/05	0.153	12/06	Continuing	Continuing	N/A
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Support			4.914	0.873		1.237		1.275		1.475		Continuing	Continuing	
Remarks:														

R-1 SHOPPING LIST - Item No. 118

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-5			PROGRAM ELEMENT 0604601N, Mine Development			PROJECT NUMBER AND NAME 0267, Mine Development								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NWSC-PC	15.833									0.000	15.833	N/A
Operational Test & Evaluation	WX	NWSC-PC, COMOPTEVFOR										0.000	0.000	N/A
												0.000	0.000	
												0.000	0.000	
												0.000	0.000	
												0.000	0.000	
												0.000	0.000	
Subtotal T&E			15.833	0.000		0.000		0.000		0.000		Continuing	Continuing	
Remarks:														
Government Engineering Support			35.599									0.000	35.599	N/A
Program Management Support	Various	Various	0.752	0.137	12/03	0.143	12/04	1.390	12/05	1.390	12/06	Continuing	Continuing	N/A
Travel	PD	NAVSEA	0.005	0.005	12/03	0.010	12/04	0.010	12/05	0.010	12/06	Continuing	Continuing	N/A
												0.000	0.000	
												0.000	0.000	
												0.000	0.000	
Subtotal Management			36.356	0.142		0.153		1.400		1.400		Continuing	Continuing	
Remarks:														
Total Cost			172.153	1.470		6.052		15.392		15.738		Continuing	Continuing	
Remarks:														

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MS A
CLASSIFICATION:

EXHIBIT R-4, Schedule Profile																DATE:				February 2005												
APPROPRIATION/BUDGET ACTIVITY								PROGRAM ELEMENT								R-1 ITEM NOMENCLATURE																
RDT& E, N/BA-5								0604601N, Mine Development								0267, Mine Development																
E. Schedule Profile																																
MINE DEVELOPMENTS PROGRAM SCHEDULE																																
	FY 2004				FY 2005				FY 2006				FY 2007				FY 2008				FY 2009				FY 2010				FY 2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Events																																
TDA Design/Development																																
TDA Verification/Validation																																
Algorithm Design/Development																																
Algorithm Verification/Validation																																
2010 Mine Analysis of Alternatives																																
2010 Mine Requirements Analysis and Documentation																																
2010 Mine Design/Development																																
2010 Mine Production																																

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 9 of 9)

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CLASSIFICATION:

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EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					R-1 ITEM NOMENCLATURE 0604603 Unguided Conventional Air-Launched Weapons			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	12.015							
2183 SLAM-ER	9.545							
9078 LIGHT DEFENDER PRECISION STRIKE MISSILE	2.470							

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) A2183/STANDOFF LAND ATTACK MISSILE-EXPANDED RESPONSE (SLAM-ER) Description: This program funds the development of SLAM-ER designed to improve performance in the areas of launch and control aircraft survivability, immunity to countermeasures, probability of kill against hardened targets, and improved user interfaces for both missile planning and launch aircraft integration. The SLAM-ER systems consist of hardware and software upgrades to the missile, software upgrades to the F/A-18 aircraft, and software upgrades to the Joint Missile Planning System (JMPS).

(U) A9078/LIGHT DEFENDER PRECISION STRIKE MISSILE Description: This program has been initiated to integrate and adapt the existing Light Defender missile for the MH-60 aircraft for Anti-Surface Warfare mission applications. Initial IOC is anticipated in FY 2007. The funds are a Congressional add to pay for the integration of initial risk reduction efforts to the missile.

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 1 of 1)

CLASSIFICATION:

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EXHIBIT R-2, RDT&E Budget Item Justification				DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE						
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-5		LIGHTWEIGHT TORPEDO DEVELOPMENT / 0604610N						
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	12.811	11.324	31.826	28.583	8.548	8.909	9.219	9.518
Lightweight Torpedo 2234	12.811	11.324	31.826	28.583	8.548	8.909	9.219	9.518
Quantity of RDT&E Articles				2			2	
Note: Articles reflect APB builds in FY07 and FY10; Spiral 1 delivery in FY07 and Spiral 2 in FY10.								
A. (U) Mission Description and Budget Item Justification:								
Lightweight Torpedo / 2234: The program designs, integrates and tests the Lightweight Torpedo (LWT, MK54). The Lightweight Torpedo provides performance improvements in shallow water, counter-measure environments. The Engineering Development Model (EDM) contract was awarded to Raytheon Systems Company in June 1996. The EDM contract has delivered twenty-one EDM units June 1996 to support the in-water test program. FY2004: Congressional increase (\$2.8M) to support improvement of MK54 array performance and reliability. FY2005: Congressional increase (\$1.5M) received to support improvements of MK54 array performance and reliability. Budget increases to support a Pre-Planned Product Improvement Program (P3I) for MK54 using a spiral development acquisition approach and Advanced Processor Build (APB) process to enable rapid hardware and software improvements to the Fleet. The P3I program will focus on MK48 common hardware and software architecture enhancements that will provide re-architecture / Torpedo Downloader System (TDS), Vertical Launch Anti Submarine Rocket (VLA) Integration, warhead with Insensitive Munition (IM) capability improvement, broadband array improvements, fully open architecture design, and conectivity / advanced interface.								

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Exhibit R-2, RDT&E Budget Item Justification

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EXHIBIT R-2, RDT&E Budget Item Justification				DATE: February 2005																										
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-5			R-1 ITEM NOMENCLATURE LIGHTWEIGHT TORPEDO DEVELOPMENT / 0604610N																											
B. Accomplishments/Planned Program																														
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 40%;">MK54 Baseline Development 2234</td><td style="width: 10%; text-align: center;">FY 04</td><td style="width: 10%; text-align: center;">FY 05</td><td style="width: 10%; text-align: center;">FY 06</td><td style="width: 10%; text-align: center;">FY 07</td></tr><tr><td>TOTAL</td><td style="text-align: center;">10.011</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr></table> <p>FY 2004 ACCOMPLISHMENTS: Completed operational in-water test program (OPEVAL) May 2004. Report delivered July 2004. IOC and Full Rate Production decisions made. Consolidated Torpedo Contract has been awarded (NTE signed June 2004).</p> <p>FY 2005 Plan: N/A</p> <p>FY 2006 Plan: N/A</p> <p>FY 2007 Plan: N/A</p> <table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 40%;">MK54 Pre-Planned Product Improvement (includes MK54 VLA Integration) 2234</td><td style="width: 10%; text-align: center;">FY 04</td><td style="width: 10%; text-align: center;">FY 05</td><td style="width: 10%; text-align: center;">FY 06</td><td style="width: 10%; text-align: center;">FY 07</td></tr><tr><td>TOTAL</td><td style="text-align: center;">2.800</td><td style="text-align: center;">11.324</td><td style="text-align: center;">31.826</td><td style="text-align: center;">28.583</td></tr><tr><td>Quantity of RDT&E Articles</td><td></td><td></td><td></td><td style="text-align: center;">2</td></tr></table> <p>FY 2004 ACCOMPLISHMENTS: Awarded contract to conduct system engineering, software and hardware development for new prototype array (funded with Congressional add). Performed engineering trade-off studies leading to initiating Spiral 1 in FY05. Initiated engineering studies for VLA integration.</p> <p>FY 2005 Plan: Funding increases to support commencing development of hardware improvements for Spiral 1 and software upgrades for Advanced Processor Build (APB). Complete array technology demo. Initiate Spiral 1 to integrate Vertical Launch Anti Submarine Rocket (VLA) with MK54 torpedo. VLA efforts include hardware design, develop prototypes, hardware/software integration, and launch system integration. Development includes efforts for hardware and software improvements of re-architecture / Torpedo Downloader System (TDS), and Insensitive Munition (IM) capability improvement. Initiate P3I contract award efforts to contractors. Initiate increased APB 1 development efforts in order to address fleet identified performance priorities for the MK54 LWT.</p> <p>FY 2006 Plan: Continue Spiral 1 to integrate Vertical Launch Anti Submarine Rocket (VLA) with MK54 torpedo. VLA efforts include hardware design, develop prototypes, hardware/software integration, and launch system integration. Development includes efforts for hardware and software improvements of re-architecture / Torpedo Downloader System (TDS), and Insensitive Munition (IM) capability improvement. Initiate engineering in-water tests of Spiral 1 components. Complete FOT&E using Architecture 0. Continue APB 1 development efforts; software development to include coding, and modeling and simulation. Initiate APB 1 engineering in-water tests of proposed releases in preparation of software release to the Fleet release in FY07. Initiate trade-off engineering studies leading to initiating Spiral 2 in FY07.</p> <p>FY 2007 Plan: Complete Spiral 1 to integrate Vertical Launch Anti Submarine Rocket (VLA) with MK54 torpedo. VLA efforts include hardware design, develop prototypes, hardware/software integration, and launch system integration. Development includes efforts for hardware and software improvements of re-architecture / Torpedo Downloader System (TDS), and Insensitive Munition (IM) capability improvement. Complete engineering in-water tests of Spiral 1 components. Conduct VLA Integration testing. Initiate Spiral 2 development including broadband array, Insensitive Munition (IM) capability improvement, and fully open architecture. Complete APB 1 efforts including engineering in-water tests. Release APB 1 to fleet.</p>						MK54 Baseline Development 2234	FY 04	FY 05	FY 06	FY 07	TOTAL	10.011	0.000	0.000	0.000	MK54 Pre-Planned Product Improvement (includes MK54 VLA Integration) 2234	FY 04	FY 05	FY 06	FY 07	TOTAL	2.800	11.324	31.826	28.583	Quantity of RDT&E Articles				2
MK54 Baseline Development 2234	FY 04	FY 05	FY 06	FY 07																										
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MK54 Pre-Planned Product Improvement (includes MK54 VLA Integration) 2234	FY 04	FY 05	FY 06	FY 07																										
TOTAL	2.800	11.324	31.826	28.583																										
Quantity of RDT&E Articles				2																										

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Exhibit R-2, RDT&E Budget Item Justification
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CLASSIFICATION:

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EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2004																																																													
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-5		R-1 ITEM NOMENCLATURE LIGHTWEIGHT TORPEDO DEVELOPMENT / 0604610N																																																													
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R-1 SHOPPING LIST - Item No. 120

Exhibit R-2, RDT&E Budget Item Justification
(Exhibit R-2, page 3 of 8)

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CLASSIFICATION:

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EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2005							
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7						R-1 ITEM NOMENCLATURE LIGHTWEIGHT TORPEDO DEVELOPMENT / 0604610N							
D. OTHER PROGRAM FUNDING SUMMARY:						FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Torpedo MK 46 MODS / MK54 MODS 0 (WPN / PE 0204228N / BA3 / BLI 321500)						42.078	61.176	76.591	96.743	116.642	129.986	133.000	135.948
E. ACQUISITION STRATEGY:													
<p>The EDM contract is held by Raytheon Systems Company. The contract was awarded as a Cost-Plus-Award Fee in June 1996 and was converted to Cost-Plus-Incentive Fee in December 1998.</p> <p>Sole Source Production Contract awarded in FY 2004 for MK48 ADCAP MODS/CBASS and MK54 Lightweight Torpedoes.</p> <p>P3I spiral acquisition strategy is to award EDM contract(s) among qualified producers.</p>													
F. MAJOR PERFORMERS:													
<p>NUWC, Newport: MK54 System Engineering, System Integration, Software development, and Hardware Engineering development.</p> <p>NUWC, Keyport: MK 54 Torpedo preparation for in-water testing and safety and environmental engineering including Fleet Exercise Section and Automatic Test Equipment. VLA: System Engineering and Integration.</p> <p>NSWC Indian Head: Warhead Development for Lightweight.</p> <p>PEO-IWS 3, Dahlgren: VLA Integration: MK41 Vertical Launching System (VLS) Systems Integration and software development.</p> <p>PEO-IWS 5, Dahlgren: VLA Integration: ASW Fire Control system integration and software development.</p> <p>Raytheon Corporation: MK54 Hardware Development.</p> <p>Material System Incorporated: Hardware Design for array technology.</p> <p>Lockheed Martin: System Engineering for VLA integration.</p>													

R-1 SHOPPING LIST - Item No. 120

Exhibit R-2, RDT&E Budget Item Justification
(Exhibit R-2, page 4 of 8)

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER								
RDT&E, N/BA-5			0604610N			Lightweight Torpedo 2234								
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware Development	WR	NUWC Newport/Keyport	CONT.	0.667	10/03	1.693	10/04	5.542	10/05	7.818	10/06	CONT.	CONT.	N/A
Hardware Development	SS/FP	Material Systems Inc.	N/A	2.086	08/04	1.250		0.000		0.000				
Hardware Development	SS/FP	Raytheon Corporation	N/A	0.000		0.158	11/04	7.814	11/05	7.146	11/06	CONT.	CONT.	N/A
Hardware Development	WR	NSWC Indian Head	N/A	0.000		0.500	10/04	0.977	10/05	0.200	10/06	CONT.	CONT.	N/A
Systems Engineering	WR	NUWC Newport/Keyport	CONT.	0.669	10/03	0.711	10/04	6.091	10/05	4.880	10/06	CONT.	CONT.	N/A
Systems Engineering	SS/FP	Lockheed Martin		0.000		0.500		1.380	11/05	0.210	11/06	CONT.	CONT.	N/A
Systems Engineering	WR	PEO-IWS 3, Dahlgren	N/A	0.000		2.000	10/04	1.700	10/05	0.700	10/06	CONT.	CONT.	N/A
Systems Engineering	WR	PEO-IWS 5, Dahlgren	N/A	0.000		0.655	10/04	2.200	10/05	1.080	10/06	CONT.	CONT.	N/A
Licenses														
Tooling														
GFE														
Award Fees														
Subtotal Product Development			CONT.	3.422		7.467		25.704		22.034		CONT.	CONT.	
Development Support Equipment														
Software Development	WR	NUWC Newport/Keyport	CONT.	0.125	10/03	2.713	10/04	4.000	10/05	4.000	10/06	CONT.	CONT.	N/A
Training Development														
Integrated Logistics Support														
Configuration Management														
Technical Data														
GFE														
Subtotal Support			CONT.	0.125		2.713		4.000		4.000		CONT.	CONT.	
Remarks:														

R-1 SHOPPING LIST - Item No. 120

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 5 of 8)

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CLASSIFICATION:

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER								
RDT&E, N/BA-5			0604610N			Lightweight Torpedo 2234								
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
System Test & Evaluation	WR	COMOPTEVFOR	CONT.	1.300	10/03	0.200	10/04	0.600	10/05	0.300	10/06	CONT.	CONT.	N/A
System Test & Evaluation	WR	NUWC Newport/Keyport	CONT.	6.861	10/03	0.450	10/04	0.855	10/05	0.820	10/06	CONT.	CONT.	N/A
System Test & Evaluation	WR	NSWC Patuxent River	0.600	0.510	10/03	0.000		0.130	10/05	0.900	10/06	N/A	0.510	N/A
System Test & Evaluation	WR	ARL/PSU State College, PA	0.200	0.163	12/03	0.050	11/04	0.100	11/05	0.100	11/06	N/A	N/A	N/A
Subtotal T&E			CONT.	8.834		0.700		1.685		2.120		CONT.	CONT.	
Remarks:														
Contractor Engineering Support														
Government Engineering Support														
Program Management Support	Various	Anteon	CONT.	0.400	MISC.	0.404	MISC.	0.397	MISC.	0.389	MISC.	CONT.	CONT.	N/A
Travel			CONT.	0.030	MISC.	0.040	MISC.	0.040	MISC.	0.040	MISC.	CONT.	CONT.	N/A
Labor (Research Personnel)				0.000		0.000		0.000		0.000				
Overhead			CONT.	0.000	MISC.	0.000	MISC.	0.000	MISC.	0.000	MISC.	CONT.	CONT.	N/A
Subtotal Management			CONT.	0.430		0.444		0.437		0.429		CONT.	CONT.	
Remarks:														
Total Cost			CONT.	12.811		11.324		31.826		28.583		CONT.	CONT.	
Remarks:														

R-1 SHOPPING LIST - Item No. 120

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 6 of 8)

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EXHIBIT R-4, Schedule Profile

DATE:

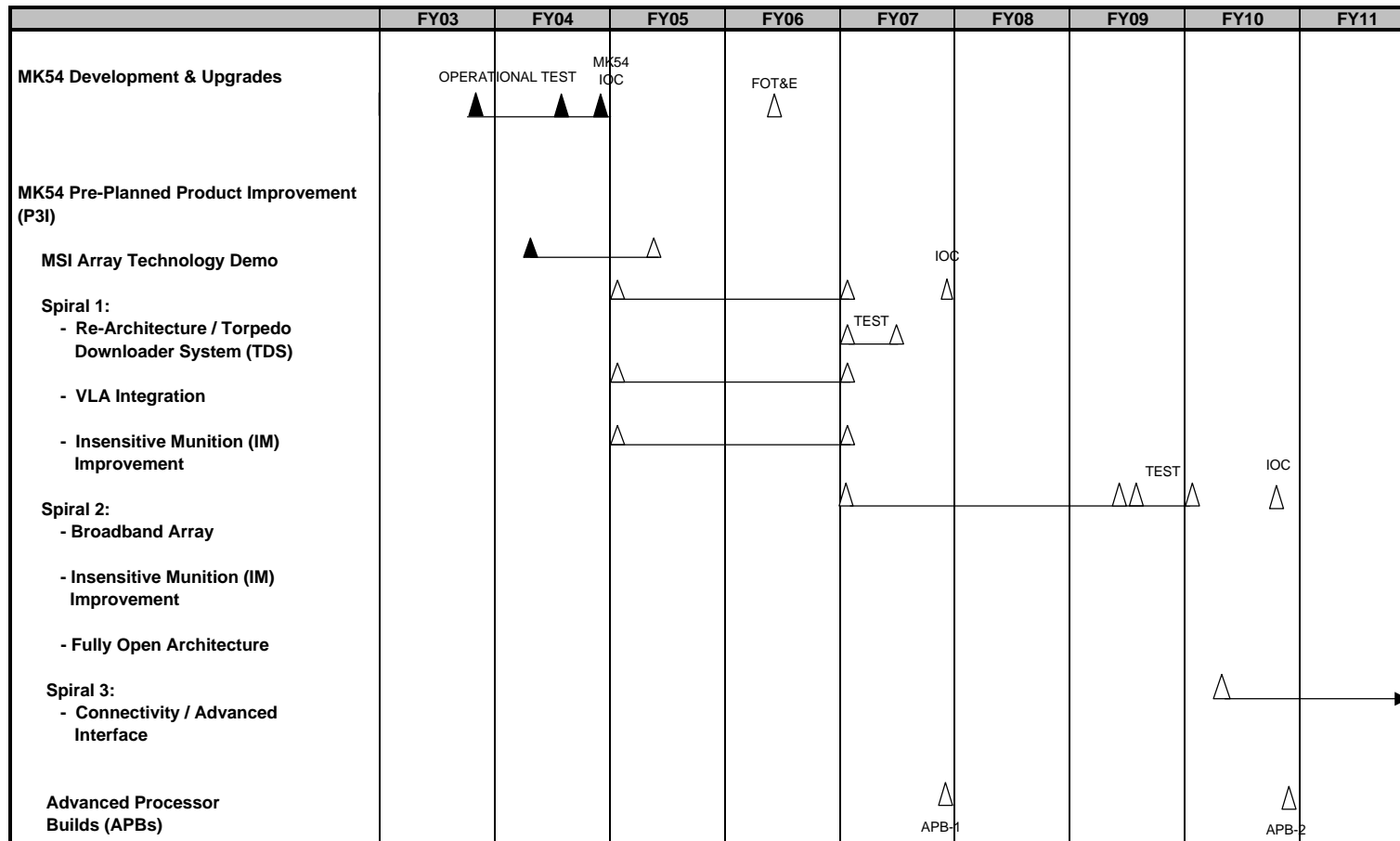
February 2005

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-5

LIGHTWEIGHT TORPEDO DEVELOPMENT / 0604610N



R-1 SHOPPING LIST - Item No. 120

Exhibit R-2, RDT&E Budget Item Justification
(Exhibit R-4, page 7 of 8)

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Exhibit R-4a, Schedule Detail					DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROJECT NUMBER AND NAME						
RDT&E,N/BA-5			LIGHTWEIGHT TORPEDO DEVELOPMENT / 0604610N						
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
MK54 Development & Upgrades									
OPEVAL	4Q	1Q-3Q							
IOC		4Q							
FOT&E				3Q					
MK54 Pre-Planned Product Improvement (P3I)									
MSI Array Technology Demo		2Q -4Q	1Q-2Q						
Spiral 1:									
Re-Architecture / Torpedo Downloader System (TDS) Development			1Q-4Q	1Q-4Q	1Q				
VLA Integration			1Q-4Q	1Q-4Q	1Q				
Insensitive Munition (IM) Improvement			1Q-4Q	1Q-4Q	1Q				
P3I Spiral 1 Testing					1Q-3Q				
P3I Spiral 1 IOC					4Q				
Spiral 2:					1Q-4Q	1Q-4Q	1Q-2Q		
Broadband Array									
Insensitive Munition (IM) Improvement									
Fully Open Architecture									
P3I Spiral 2 Testing							3Q-4Q	1Q	
P3I Spiral 2 IOC								4Q	
Spiral 3:									
Connectivity / Adv. Interface								2Q-4Q	1Q-4Q
Advanced Processor Builds (APBs)									
APB-1					4Q				
APB-2								4Q	

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Exhibit R-4a, RDT&E Budget Item Justification
(Exhibit R-4a, page 8 of 8)

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CLASSIFICATION:

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[illegible]

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

JDAM is a joint acquisition program combining Department of Navy and Air Force requirements to upgrade existing General Purpose Bomb capabilities in adverse weather and at medium to high altitude releases. The upgrade is accomplished by the addition of a guidance tail kit to existing General Purpose Bombs (2000 lb, 1000 lb, and 500 lb inventory bombs). The Air Force is the executive service. The Navy's participation in JDAM involves joint development of JDAM components and support of Navy-Marine Corps unique requirements such as aircraft integration on the F/A-18. The program will incorporate commonality with the Joint Standoff Weapon where feasible.

The JDAM Joint Operational Requirements Document (JORD) was updated to include a requirement for a JDAM capability with the 500lb inventory bomb (MK82). The Air Force will continue to be the executive service for this effort. The Navy is participating in the joint development of the JDAM MK82 and support the Navy-Marine Corps unique requirements such as aircraft integration on the F/A-18, utilizing a smart rack for additional weapon carriage.

The Navy JDAM Hornet Autonomous Real-time Targeting (HART), formerly known as Product Improvement Program (PIP) was terminated in FY04, which therefore zeroed out the JDAM RDT&E budget for FY04 and out years. Remaining funds in FY04 are for completion of the JDAM MK82 OT period.

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE					
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /BA-5					0604654N Joint Service EOD Development Engineering					
										Total
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Program
Total PE Cost	12.744	8.979	8.880	10.017	10.237	9.807	10.033	10.250	Continuing	Continuing
EOD Procedures/1829	12.744	7.992	8.880	10.017	10.237	9.807	10.033	10.250	Continuing	Continuing
Anti-Terrorist EOD/9580	0.000	**0.987	0.000	0.000	0.000	0.000	0.000	0.000		
RDT&E Articles Qty	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Continuing	0

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

DOD Directive 5160.62 assigned to the Secretary of the Navy (SECNAV) the responsibility of Single Manager for Explosive Ordnance Disposal (EOD) Technology and Training (T&T). It also assigns to the Executive Manager for EODT&T (N85X) the responsibility to provide for technical development, validation, preparation, Joint Service approval, and distribution of all EOD procedures texts, graphic aids, manuals, and bulletins. This program also provides for the implementation of the DOD/DOE/FBI Memorandum of Understanding (MOU) as delineated in DOD Directive 3150.5 for response to Improvised Nuclear Devices (INDs).

This program provides for the development of validated EOD render-safe procedures (RSPs), key identification features, and safety information used by EOD personnel in all four military services when performing their mission of rendering safe and disposing of both domestic and foreign explosive ordnance and improvised explosive devices (IEDs) that pose a threat to military operations, installations, personnel, and materials. In addition, EOD render-safe procedures for foreign ordnance must be developed as soon as possible after gaining knowledge of its existence. This effort requires exploitation and analysis of the foreign ordnance prior to development of the procedures. The program also provides for a DOD Technical Response Group with specialized tools and procedures, which may deploy with the primary EOD response element in response to IND and Weapons of Mass Destruction (WMD) incidents. This effort also provides resources necessary for the foreign threat mine acquisition/exploitation (FTMA/E) program. This effort includes acquisition, inert certification, intelligence and operational exploitation, analysis, procedure development, and disposition of the highest priority foreign threat naval mines.

This program is a non-acquisition program with on-going, continuous delivery of documented procedures and identification guides with no distinct delivery milestones.

**Congressional Add FY05 for Anti-Terrorist Explosive Ordnance Disposal.

R-1 SHOPPING LIST - Item No. 122

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Exhibit R-2, RDTE Budget Item Justification

(Exhibit R-2, Page 1 of 6)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604654N/Joint Service EOD Development Engineering	PROJECT NUMBER AND NAME 1829/EOD Procedures																	
(U) B. Accomplishments/Planned Program																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	11.363	6.358	1.001	0.982															
RDT&E Articles Quantity																			
Obtain, analyze and exploit foreign ordnance and develop EOD render-safe procedures for new sophisticated domestic and foreign ordnance.																			
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RDT&E Articles Quantity																			
Develop IND countermeasures procedures and participate in exercises and joint working groups.																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.727	0.864	5.544	5.813															
RDT&E Articles Quantity																			
Obtain high priority foreign sea mines for analysis and exploitation to provide for the development of MCM procedures.																			

R-1 SHOPPING LIST - Item No. 122

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																			
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R-1 SHOPPING LIST - Item No. 122

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005																								
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604654N/Joint Service EOD Development Engineering			PROJECT NUMBER AND NAME 1829/EOD Procedures																									
<p>(U) D. OTHER PROGRAM FUNDING SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Line Item No. & Name</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2004</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2005</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2006</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2007</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2008</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2009</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2010</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2011</th> <th style="text-align: center; border-bottom: 1px solid black;">To Complete</th> <th style="text-align: center; border-bottom: 1px solid black;">Total Cost</th> </tr> </thead> <tbody> <tr> <td colspan="11" style="padding-top: 20px;">Not applicable</td> </tr> </tbody> </table> <p style="margin-top: 40px;">(U) E. ACQUISITION STRATEGY: *</p> <p style="margin-left: 40px;">This is a non-acquisition program.</p> <p style="margin-top: 40px;">(U) F. MAJOR PERFORMERS: **</p> <p style="margin-left: 40px;">Funding is executed by Naval Explosive Ordnance Disposal Technology Division located in Indian Head, MD and the Office of Naval Intelligence located in Suitland, MD in FY04 through FY07. The funding is used to obtain, analyze and exploit foreign ordnance and develop EOD render-safe procedures for new sophisticated domestic and foreign ordnance.</p> <p style="margin-top: 40px;">* Not required for Budget Activities 1,2,3, and 6 ** Required for DON and OSD submit only.</p>										Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost	Not applicable										
Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost																					
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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME									
RDT&E, N / BA-5			0604654N/Joint Service EOD Development Engineering			1829/EOD Procedures									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
RSP Development	WX	EODTD, Indian Head, MD	144.799	9.252	10/03	5.353	10/04	0.686	10/05	0.689	10/06	Continuing	Continuing		
IND Countermeasures	WX	EODTD, Indian Head, MD	25.766	0.654	10/03	0.584	10/04	1.991	10/05	2.673	10/06	Continuing	Continuing		
Foreign Mine Acquisition	WX	EODTD, Indian Head, MD	4.315	0.727	10/03	0.657	10/04	4.646	10/05	4.928	10/06	Continuing	Continuing		
Program Management Personnel	WX	EODTD, Indian Head, MD	1.845	0.200	10/03	0.200	10/04	0.225	10/05	0.225	10/06	Continuing	Continuing		
Miscellaneous	Various	Various	5.807	1.911	10/03	1.198	10/04	1.332	10/05	1.502	10/06	Continuing	Continuing		
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
Subtotal Product Development			182.532	12.744		7.992		8.880		10.017		0.000	222.165		
Remarks:															
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
Subtotal Support			0.000	0.000		0.000		0.000				0.000	0.000		
Remarks:															

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, Page 5 of 6)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME								
RDT&E, N / BA-5			0604654N/Joint Service EOD Development Engineering				1829/EOD Procedures								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Developmental Test & Evaluation													0.000		
Operational Test & Evaluation													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
Subtotal T&E			0.000	0.000		0.000		0.000				0.000	0.000		
Remarks:															
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
Subtotal Management			0.000	0.000		0.000		0.000				0.000	0.000		
Remarks:															
Total Cost			182.532	12.744		7.992		8.880		10.017		0.000	222.165		
Remarks:															

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EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					R-1 ITEM NOMENCLATURE 0604703N, Manpower, Personnel, Training, Simulation, & Human Factors			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	1.857	2.958	3.097	4.031	4.027	4.051	4.131	4.205
1822/Manpower, Personnel, Training, Sim, and HF	1.014	1.957	1.992	2.864	2.847	2.850	2.908	2.958
3089/Science and Technology Training Transition	0.843	1.001	1.105	1.167	1.180	1.201	1.223	1.247
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This non-acquisition category program provides funds for continued R&D for broader application of advanced training technologies and the science of learning to transition successful 6.3 research proof of concept demonstrations and rapid prototyping of COTS/GOTS technologies into operation use.								

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604703N, Manpower, Personnel, Training, Simulation, and Human Factors				PROJECT NUMBER AND NAME 1822/Manpower, Personnel, Training, Sim, and HF			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	1.014	1.957	1.992	2.864	2.847	2.850	2.908	2.958
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: L1822/Manpower, Personnel, Training, Sim, and Human Factors This non-acquisition category program provides funds for continued (but less risky) R&D for broader application of advanced technologies to transition successful 6.3 research proof-of-concept demonstrations into operational use. Development of prototype systems to support and/or improve operational requirements of manpower and personnel sponsors is the primary goal of this Engineering Development Program. The 6.5 R&D Program features the use of a broad range of technologies from cognitive science and ability testing techniques, mathematical modeling and optimization, statistical and econometric forecasting, intelligent systems, data visualization, data mining, simulation, decision support systems, and new database and communications configuration. (U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under RDT&E operational systems development because it encompasses engineering and development of new end-items prior to production approval decision. (U) PROGRAM ACCOMPLISHMENTS AND PLANS: 1. (U) FY 2004 ACCOMPLISHMENTS: • (U) (\$80K) Completed STEAR (Skill Assessment, Training, Evaluation, and Assistance for Recruiters) project. Provided guidelines to sponsor to implement final version of Recruiter Assessment Battery (RAB). • (U) (\$120K) Completed the Strength Planning and Budget System Integration (STP/BSI) project. Completed modeling and computer based training for enlisted strength planners. • (U) (\$90K) Continued prototype development of URL Officer Career Path Simulation model. Implemented Data Collection Plan for model use. Extended application of the model to Aviator Community. Developed reporting requirements and analyzed data for full implementation. Mapped Submarine and Fleet Support Officer Career Milestones in preparation of extending model application to these communities in FY 2005. • (U) (\$95K) Completed 6.5 R&D transitioning to operational use of Comprehensive Officer Force Management Environment models/system (CHROME). Compared Strength Planner and Officer Community Manager forecasts and actual data. Developed the capability within the model to: allocate officer accessions; plan officer promotions; predict out-year officer strength losses; account for external variables that influence changes to the officer force; incorporate pay-grade changes that occur with actual losses; and, added graphical output. • (U) (\$75K) Completed transitioning of the Models of Navy Compensation and Personnel Behavior (MODCOMP). • (U) (\$94K) Began transition of Chief of Naval Personnel (CNP) Quick Polling System. • (U) (\$200K) Began 6.5 R&D transitioning to operational use of Rating Identification Engine (RIDE). Demonstrated Skill-Job Matching Algorithm known as RIDE; a broad spectrum assignment algorithm that optimally assigns individuals to jobs, increasing job options for recruits while reducing training attrition, increasing first-pass A-school success, and maximizing school and job performance. • (U) (\$100K) Began transition of the Jobs & Occupational Interests in the Navy (JOIN) / FLEET JOIN System. JOIN will be a web-enabled tool as a means to assess and utilize occupational interests to improve the quality of classification during first term of enlistment, as well as a tool to be used during FLEET rating conversions. • (U) (\$100K) Continued prototype development of Enlisted Manpower and Personnel Integrated Planning System (EMPIPS). • (U) (\$60K) Small Business Innovative Research (SBIR) and other withhold.								

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604703N, Manpower, Personnel, Training, Simulation, and Human Factors	PROJECT NUMBER AND NAME 1822/Manpower, Personnel, Training, Sim, and HF
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: 4. (U) FY 2007 PLAN: <ul style="list-style-type: none">• (U) (\$143K) Complete prototype development of the Training Continuum and Readiness Modeling (TCARM).• (U) (\$50K) Complete prototype development of RIDE.• (U) (\$425K) Continue prototype development of Non-Cognitive Measures.• (U) (\$425K) Continue prototype development of Attrition Reduction Technologies.• (U) (\$475K) Begin prototype development of Career Case Manager Technologies.• (U) (\$475K) Begin prototype development of Distribution Incentives System (DIS).• (U) (\$421K) Complete prototype development of EMPIPS.• (U) (\$450K) Continue prototype development of Enterprise Management System. 5. (U) FY 2008 PLAN: <ul style="list-style-type: none">• (U) (\$350K) Complete prototype development of Non-Cognitive Measures.• (U) (\$350K) Begin prototype development of Cultures and Values Selection• (U) (\$100K) Complete prototype development of Attrition Reduction Technologies.• (U) (\$300K) Continue prototype development of Career Case Manager Technologies.• (U) (\$322K) Continue prototype development of Distribution Incentives System (DIS).• (U) (\$300K) Complete prototype development of Enterprise Management System.• (U) (\$400K) Begin Transition of Integrated Whole Person Assessment System• (U) (\$375K) Begin Transition of Integrated Career Management System• (U) (\$350K) Begin Transition of Integrated P-SMART System		

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604703N, Manpower, Personnel, Training, Simulation, and Human Factors	PROJECT NUMBER AND NAME 1822/Manpower, Personnel, Training, Sim, and HF			
B. PROGRAM CHANGE SUMMARY:					
Funding:		FY 2004	FY 2005	FY 2006	FY 2007
FY05 President's Budget		1.058	1.993	2.012	2.887
FY06 President's Budget		1.014	1.957	1.992	2.864
Total Adjustments		-0.044	-0.036	-0.020	-0.023
Summary of Adjustments					
Section 8094: Management		-0.003			
Sec 8126: Efficiencies		-0.009			
Section 8122: Assumed Management			-0.006		
Section 8131 Non-statutory Funding			-0.012		
FY05 Sec. 8028 FFRDC Reduction			-0.016		
FY04 SBIR (9-Apr-04)		-0.032			
Program Adjustments		0.000	-0.002	-0.020	-0.023
Subtotal		-0.044	-0.036	-0.020	-0.023
Schedule:	Not Applicable				
Technical:	Not Applicable				
C. (U) OTHER PROGRAM FUNDING SUMMARY: None					
(U) RELATED RDT&E:					
(U) PE 0601152N, In-House Independent Lab Research					
(U) PE 0601153N, Defense Research Sciences					
(U) PE 0602233N, Mission Support Technology					
(U) PE 0602722A, Personnel and Training					
(U) PE 0603707N, Manpower, Personnel and Training Advanced Technology Development					
(U) PE 0603731A, Manpower and Personnel					
(U) PE 0603704F, Manpower and Personnel Systems Technology					
(U) SCHEDULE PROFILE: Not applicable.					

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604703N, Manpower, Personnel, Training, Simulation, & Human Factors				PROJECT NUMBER AND NAME 3089/Science and Technology Training Transition			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	0.843	1.001	1.105	1.167	1.180	1.201	1.223	1.247
RDT&E Articles Qty	1	3	3	3	3	3	3	3
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>U) Every major study on Navy Training (e.g. Zero-based Review (ZBT), Navy Research Advisory Committee (NRAC), Naval Studies Board, Executive Review of Navy Training (ERNT), Strategic Studies Group, Revolution in Training (SSG RIT)) conducted over the past decade has indicated the need for a Development, Test and Evaluation (D, T&E) program for emerging training technologies. This non-acquisition category program provides funds for continued R&D for broader application of advanced training technologies and the science of learning to transition successful 6.3 research proof of concept demonstrations and rapid prototyping of COTS/GOTS technologies into operational use. Development of prototype systems to support and/or improve operational requirements of training sponsors is the primary goal of this Engineering Development Program. Demonstrations of the 6.3 R&D training technologies have significantly reduced knowledge acquisition times and cost to the Navy. For example, intelligent tutoring has been shown to significantly reduce time (up to 30%) to acquire complex knowledge and skills, and accelerate knowledge acquisition (by 1-2 standard deviation) over traditional training methods. Team dimensional training has demonstrated up to a 60% improvement in tactical teamwork skills. 6.3 programs like Interactive Multisensor Analysis Training (IMAT), and visualization technologies have decreased time to qualify and have been documented and endorsed as a fleet requirement. Reduced manning initiatives require training solutions that will accomplish the training in less time and with fewer instructors. Current acquisition initiatives are unable to incorporate many of the technology developments that would reduce training time and trainers due to the lack of funds to support prototype development on specific platforms or at schoolhouses. This 6.3 program features the use of a broad range of maturing technologies from the science of learning and cognitive science, learning object design and development, learning delivery technologies, and human performance technologies and also push the envelope on new technologies. Further Engineering Development and Test/Evaluation is needed in support of the Capable Manpower Future Naval Capability investment strategy to prepare technologies for Fleet/School implementation.</p>								

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B. Accomplishments/Planned Program																																																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Scenario based Performance Assessment & Diagnosis</td> <td style="width: 10%;">FY 04</td> <td style="width: 10%;">FY 05</td> <td style="width: 10%;">FY 06</td> <td style="width: 10%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.400</td> <td>0.420</td> <td>0.430</td> <td>0.275</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td>1</td> <td>1</td> <td>1</td> </tr> </table> <p style="margin-top: 10px;">Objective: Develop prototype tools and technologies for real-time performance assessment and scenario design. Prototype capability would support the Fleet in collecting various types of human performance metrics to be used in training individuals and teams. The measurement of human performance is a cornerstone capability to achieve a revolution in training. Approach/Products: FY04: Develop automated performance measurement capability for Battlestations at NETC Great Lakes. FY05: Conduct prototype training study with existing simulation-based training/Demonstrate diagnosis assessment based on prototype and recommend improvements. FY06/07: Determine extensions required for simulation to improve diagnosis capability. Demonstrate prototype simulation with expanded data capability for diagnosis and assessment. Deliverables include prototypes, reports and systems requirements specifications.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">COTS/GOTS Simulation Engines</td> <td style="width: 10%;">FY 04</td> <td style="width: 10%;">FY 05</td> <td style="width: 10%;">FY 06</td> <td style="width: 10%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td></td> <td>0.104</td> <td>0.275</td> <td>0.500</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td>1</td> <td>1</td> <td>1</td> </tr> </table> <p style="margin-top: 10px;">Objective: Develop a prototype "open source" COTS/GOTS simulation architecture to improved collective/team training, mission planning and mission rehearsal. Approach/Products: The program will leverage work done on micro-simulator systems, virtual technologies and environments with gaming engines, and interoperability using the high level architecture (HLA) to develop training simulations which facilitate reusability of components and models, conform to common open data standards and protocols, and drastically drive down the cost of application development by commoditizing the architecture, thus focusing resources on content rather than infrastructure. With reconfigurable "microsimulator" devices costing less than 5% of a medium fidelity device, many individual and team tasks can be trained earlier, more frequently, and with less skill perishability. Deliverables include prototypes, reports and systems requirements specifications.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">E- learning Tools for Diagnosis and Assessment</td> <td style="width: 10%;">FY 04</td> <td style="width: 10%;">FY 05</td> <td style="width: 10%;">FY 06</td> <td style="width: 10%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.443</td> <td>0.477</td> <td>0.400</td> <td>0.392</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> </table> <p style="margin-top: 10px;">Objective: Develop prototype E-learning tools for diagnosis and assessment with the required level of granularity of performance assessment to effectively diagnose root causes of performance. A capability is required to enable effective diagnosis and implement deficiency based training and adaptive instruction in the Integrated Learning Environment (ILE). Approach/Products: FY04: Analyze COTS Capabilities for performance assessment the Integrated Learning Environment (ILE). FY05: Demonstrate a prototype set of performance assessment tools for deficiency based training using an available set of ILE objects for a particular rating. FY06/07: Perform validation studies with prototype. Demonstrate/validate potential ROI of deficiency based training within ILE. Deliverables include prototypes, reports and systems requirements specifications.</p>					Scenario based Performance Assessment & Diagnosis	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.400	0.420	0.430	0.275	RDT&E Articles Quantity		1	1	1	COTS/GOTS Simulation Engines	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost		0.104	0.275	0.500	RDT&E Articles Quantity		1	1	1	E- learning Tools for Diagnosis and Assessment	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.443	0.477	0.400	0.392	RDT&E Articles Quantity	1	1	1	1
Scenario based Performance Assessment & Diagnosis	FY 04	FY 05	FY 06	FY 07																																													
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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																													
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME PE0604703N, Manpower, Personnel, Training, Simulation, and Human Factors	PROJECT NUMBER AND NAME 3089/Science and Technology Training Transition																																																														
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 10%; text-align: right;">FY 04</th> <th style="width: 10%; text-align: right;">FY 05</th> <th style="width: 10%; text-align: right;">FY 06</th> <th style="width: 10%; text-align: right;">FY 07</th> </tr> </thead> <tbody> <tr> <td>Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Previous President's Budget:</td> <td style="text-align: right;">0.873</td> <td style="text-align: right;">1.012</td> <td style="text-align: right;">1.097</td> <td style="text-align: right;">1.159</td> </tr> <tr> <td>Current BES/President's Budget</td> <td style="text-align: right;">0.843</td> <td style="text-align: right;">1.001</td> <td style="text-align: right;">1.105</td> <td style="text-align: right;">1.167</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-0.030</td> <td style="text-align: right; border-top: 1px solid black;">-0.011</td> <td style="text-align: right; border-top: 1px solid black;">0.008</td> <td style="text-align: right; border-top: 1px solid black;">0.008</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td></td> <td></td> <td style="text-align: right;">-0.010</td> <td></td> <td></td> </tr> <tr> <td>Congressional undistributed reductions</td> <td></td> <td style="text-align: right;">-0.001</td> <td style="text-align: right;">-0.003</td> <td style="text-align: right;">-0.007</td> </tr> <tr> <td>Program Adjustments</td> <td></td> <td></td> <td style="text-align: right;">0.011</td> <td style="text-align: right;">0.015</td> </tr> <tr> <td>Economic Assumptions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Reprogrammings</td> <td style="text-align: right;">-0.030</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">-0.030</td> <td style="text-align: right; border-top: 1px solid black;">-0.011</td> <td style="text-align: right; border-top: 1px solid black;">0.008</td> <td style="text-align: right; border-top: 1px solid black;">0.008</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule: Not Applicable.</p> <p style="margin-top: 20px;">Technical: Not Applicable.</p>						FY 04	FY 05	FY 06	FY 07	Funding:					Previous President's Budget:	0.873	1.012	1.097	1.159	Current BES/President's Budget	0.843	1.001	1.105	1.167	Total Adjustments	-0.030	-0.011	0.008	0.008	Summary of Adjustments							-0.010			Congressional undistributed reductions		-0.001	-0.003	-0.007	Program Adjustments			0.011	0.015	Economic Assumptions					Reprogrammings	-0.030				Subtotal	-0.030	-0.011	0.008	0.008
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R-1 SHOPPING LIST - Item No. 123

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005																							
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME																									
RDT&E, N / BA-5		PE0604703N, Manpower, Personnel, Training, Simulation, and Human Factors		3089/Science and Technology Training Transition																									
<p>D. OTHER PROGRAM FUNDING SUMMARY:</p> <table> <thead> <tr> <th><u>Line Item No. & Name</u></th> <th><u>FY 2004</u></th> <th><u>FY 2005</u></th> <th><u>FY 2006</u></th> <th><u>FY 2007</u></th> <th><u>FY 2008</u></th> <th><u>FY 2009</u></th> <th><u>FY 2010</u></th> <th><u>FY 2011</u></th> <th>To <u>Complete</u></th> <th>Total <u>Cost</u></th> </tr> </thead> <tbody> <tr> <td colspan="11">Not Applicable</td> </tr> </tbody> </table> <p>E. ACQUISITION STRATEGY:</p> <p>(U) Acquisition strategy will rely on extensive market surveillance and market research and include a combination of competitive commercial and non-developmental item procurements with competitive integration and support contracts. Most hardware/software system contracts will be firm-fixed price. Integration and support contracts will be a combination of firm-fixed price and cost type contracts. Project will use an integrated project team approach to manage the requirements, development, integration, testing and support of fielded prototypes.</p>								<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	To <u>Complete</u>	Total <u>Cost</u>	Not Applicable										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	To <u>Complete</u>	Total <u>Cost</u>																			
Not Applicable																													

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			PE0604703N, Manpower, Personnel, Training, Simulation, and Human Factors			3089/Science and Technology Training Transition						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering											0.000	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Development Support	WR	NAWCTSD, Orlando, FL	0.161	0.104	11/04	0.200	11/05	0.324	11/06		0.804	
Development Support	BAA	CHI Systems, Phila, PA						0.275	01/07		0.275	
Development Support	BAA	Pearson Knl An, Bolder, CO		0.330	01/05	0.150	01/06				0.480	
Software Development	WR	NPS, Monterey, CA				0.125	12/05	0.250	12/06		0.375	
Software Development	BAA	Eng & Computer Sim, Orl, FL				0.150	01/06	0.250	01/07		0.400	
Studies & Analyses	BAA	UCLA CRESST, LA, CA		0.509	01/05	0.415	01/06				0.924	
Studies & Analyses	BAA	J. McHugh Construction, IL	0.400								0.400	
Award Fees			0.282								0.282	
Subtotal Support			0.843	0.943		1.040		1.099		0.000	3.970	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RDT&E, N / BA-5			PE0604703N, Manpower, Personnel, Training, Simulation, and Human Factors				3089/Science and Technology Training Transition					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	WR	NAVAIR SYSCOM, PAX MD		0.043	11/04	0.050	11/05	0.053	11/06		0.146	
Travel	WR	NAWCTSD, Orlando, FL		0.015	11/04	0.015	11/05	0.015	11/06		0.045	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.058		0.065		0.068		0.000	0.191	
Remarks:												
Total Cost			0.843	1.001		1.105		1.167		0.000	4.116	
Remarks:												

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME				February 2005				
RDT&E, N / BA-5												PE0604703N, Manpower, Personnel, Training, Simulation, and Human Factors												3089/Science and Technology Training Transition								
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Scenario based Performance Assessment & Diagnosis																																
For BattleStations 21																																
For Individual Training/ ILE																																
Spiral 1- PM																																
Spiral 2- Assessment																																
Spiral 3 - Diagnosis																																
For Fleet Training																																
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Spiral 3 - Diagnosis																																
COTS/GOTS Simulation Engines																																
For Individual Training/ ILE																																
Spiral 1- Stand alone																																
Spiral 2- Networked/ Interoperable																																
Spiral 3 - Distributed																																
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Spiral 3 - Distributed																																
E- learning Tools for Diagnosis and Assessment																																
For Individual Training/ ILE																																
Spiral 1- PM																																
Spiral 2- Assessment																																
Spiral 3 - Diagnosis																																
For Fleet Training																																
Spiral 1- PM																																
Spiral 2- Assessment																																
Spiral 3 - Diagnosis																																
Deliverables																																
Report - Study Results				△				△				△				△				△				△				△				
Prototype Demonstration							△				△				△				△				△				△					
Systems Requirements Specifications (SRS)								△				△				△				△				△				△				

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* Not required for Budget Activities 1, 2, 3, and 6

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME				
RDT&E, N / BA-5	PE0604703N, Manpower, Personnel, Training, Simulation, and Human Factors				3089/Science and Technology Training Transition				
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
Scenario based Performance Assessment & Diagnosis									
For BattleStations 21	3Q-4Q								
--Analysis/Studies									
--Prototype Development									
--Systems Requirements Specifications (SRS)									
For Individual Training/Integrated Learning Environment (ILE)		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q				
--Analysis/Studies		1Q-2Q	1Q-2Q	1Q-2Q	1Q-2Q				
--Prototype Development		2Q-3Q	2Q-3Q	2Q-3Q	2Q-3Q				
--Systems Requirements Specifications (SRS)		4Q	4Q	4Q	4Q				
For Fleet Training					1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
--Analysis/Studies					1Q-2Q	1Q-2Q	1Q-2Q	1Q-2Q	
--Prototype Development					2Q-3Q	2Q-3Q	2Q-3Q	2Q-3Q	
--Systems Requirements Specifications (SRS)					4Q	4Q	4Q	4Q	
COTS/GOTS Simulation Engines									
For Individual Training/Integrated Learning Environment (ILE)			1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q			
--Analysis/Studies			1Q-2Q	1Q-2Q	1Q-2Q	1Q-2Q			
--Prototype Development			2Q-3Q	2Q-3Q	2Q-3Q	2Q-3Q			
--Systems Requirements Specifications (SRS)			4Q	4Q	4Q	4Q			
For Fleet Training						1Q-4Q	1Q-4Q	1Q-4Q	
--Analysis/Studies						1Q-2Q	1Q-2Q	1Q-2Q	
--Prototype Development						2Q-3Q	2Q-3Q	2Q-3Q	
--Systems Requirements Specifications (SRS)						4Q	4Q	4Q	
E- learning Tools for Diagnosis and Assessment									
For Individual Training/Integrated Learning Environment (ILE)	3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q				
--Analysis/Studies	3Q-4Q	1Q-2Q	1Q-2Q	1Q-2Q	1Q-2Q				
--Prototype Development		2Q-3Q	2Q-3Q	2Q-3Q	2Q-3Q				
--Systems Requirements Specifications (SRS)		4Q	4Q	4Q	4Q				
For Fleet Training					1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
--Analysis/Studies					1Q-2Q	1Q-2Q	1Q-2Q	1Q-2Q	
--Prototype Development					2Q-3Q	2Q-3Q	2Q-3Q	2Q-3Q	
--Systems Requirements Specifications (SRS)					4Q	4Q	4Q	4Q	

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CLASSIFICATION:								
EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /			BA 5		R-1 ITEM NOMENCLATURE PE 0604721N Battle Group Passive Horizon Extension System			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	16.727	29.966	18.456	17.736	16.617	16.950	17.329	17.677
2134/SHIPBOARD IW EXPLOIT	16.727	17.792	18.456	17.736	16.617	16.950	17.329	17.677
9281/NAVY INTELLIGENT AGENT SECURITY MODULE *		0.979						
9581/AIRBORNE COMMUNICATIONS INTERCEPT POD (ACIF) *		1.685						
9582 ANTI-TERRORISM TECHNOLOGY SURVEILLANCE SYSTEM *		1.090						
9584/SHIPBOARD INFORMATION WARFARE EXPLOIT *		4.261						
9585/SHIPS SIGNAL EXPLOITATION EQUIPMENT (SSEE) *		0.989						
9586/SMART SIGNAL PARSER AND ACTIONABLE INTELLIGENCE *		3.170						
Quantity of RDT&E Articles								
<p>U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Shipboard Information Warfare line includes the following programs: Ships Signal Exploitation Equipment (SSEE), the Program of Record that executes the Maritime Cryptologic Systems for the 21st Century (MCS 21) and Communications Data Link System (CDLS) the Program of Record that implements the DoD mandated use of the Common Data Link waveform to downlink un-processed SIGINT/COMINT and imagery. These systems provide the Battle Group with real time Indications and Warnings (I&W) by acquisition and localization of signals of interest (SOI). This program's funding is required to incorporate new commercial off-the-shelf (COTS) based technologies and software into the existing systems. The funding will focus on merging the current IW sensor systems into a scalable sensor package that can be tailored to different ship types and be compliant with the Maritime Cryptologic Architecture.</p> <p>Congressional Adds *:</p> <p>9281/NAVY INTELLIGENT AGENT SECURITY MODULE: – Offensive Capabilities (program name recently changed to Sensing, Warning, and Response Manager (SWARM)). Funds provided for SBIR II research, development, testing and evaluation of newly designed "Offensive capabilities technology for the IASM . Assures information dominance and superiority against threats with forensics and countermeasure options.</p> <p>X9581/AIRBORNE COMMUNICATIONS INTERCEPT POD (ACIF): - Funds will support the test and evaluation of communications module; documentation; test and evaluation of additional interface capabilities for different type aircraft. Test and evaluation of antennas for airborne pod operation. The add will also provide engineering support for flight clearances and for test support engineering.</p> <p>X9582 ANTI-TERRORISM TECHNOLOGY SURVEILLANCE SYSTEM: - Funds will support Phase III SBIR to ATTSS for the development of 2 Engineering Development Models to be provided to the Mobile Inshore Undersea Warfare System Upgrade (MIUW-SU).</p>								

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY BA-5	R-1 ITEM NOMENCLATURE PE 0604721N Battle Group Passive Horizon Extension System	
<p>Congressional Adds Continued:</p> <p>X9584/SHIPBOARD INFORMATION WARFARE EXPOIT: - Funds are to develop organic ELINT collection, response, processing and integration, which will provide individual ships with an integrated and consolidated SIGINT picture of the threat battle space. This add will address the ORD requirements to provide SSEE with a tactical organic ELINT capability.</p> <p>X9585/SHIPS SIGNAL EXPLOITATION EQUIPMENT (SSEE): - Funds will provide enhancements to SSEE using commercial off the shelf hardware such as Field Programmable Gate Arrays (FPGAs). SSEE is an adaptable system that can accommodate new threat signals through software updates. Emergent signals place increased demand on system processing requirements. At the same time, opportunities exist to expand system capabilities through the use of new COTS FPGA boards to increase processing capability without increasing system cost.</p> <p>X9586/SMART SIGNAL PARSER AND ACTIONABLE INTELLIGENCE: - Funds are provided to develop and expand the applied Special Signal rule set and to expand the subject signal set to cover the larger number of signal types that are required. Obtain message textual para data for special signal case to create template module to process new bit data; to expand the AIE data mining capability to cover additional signal types and expand actionable intelligence extraction rule set that permit automated actionable intelligence extraction of other key signals of interest in the war on terror.</p>		

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CLASSIFICATION:								
EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME PE 0604721N Battle Group Passive Horizon Extension System				PROJECT NUMBER AND NAME 2134/SHIPBOARD IW EXPLOIT		
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Project Cost		16.727	17.792	18.456	17.736	16.617	16.950	17.329
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Shipboard Information Warfare line includes the following programs: Ships Signal Exploitation Equipment (SSEE), the Program of Record that executes the Maritime Cryptologic Systems for the 21st Century (MCS 21) and Communications Data Link System (CDLS) the Program of Record that implements the DoD mandated use of the Common Data Link waveform to downlink un-processed SIGINT/COMINT and imagery. These systems provide the Battle Group with real time Indications and Warnings (I & W) by acquisition and localization of signals of interest (SOI). This program's funding is required to incorporate new commercial off-the-shelf (COTS) based technologies and software into the existing systems. The funding will focus on merging the current IW sensor systems into a scalable sensor package that can be tailored to different ship types and be compliant with the Maritime Cryptologic Architecture.</p>								

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME PE 0604721N Battle Group Passive Horizon Extension System	PROJECT NUMBER AND NAME 2134/SHIPBOARD IW EXPLOIT																	
<p>(U) B. Accomplishments/Planned Program</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr> <th style="width: 25%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> </thead> <tbody> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">4.000</td> <td style="text-align: center;">4.000</td> <td style="text-align: center;">2.500</td> <td style="text-align: center;">2.500</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>Communications Data Link- System (CDLS)</p> <p>FY04 - Integrated advanced technology Common Data Link (CDL) modem. Continued design and development of CDLS integrated operator station, development efforts for interoperability and integration with emerging Navy sensor systems such as BAMS, F/A-18 SHARP and EP-3E Multi-int systems.</p> <p>FY05 - Design and Develop CDLS Interfaces to Phased Array Antenna Systems. Integrate and Test Cooperative Antenna Program Sub-array Assemblies. Design and develop CDLS Spiral 1 Advanced Networking Technology Insertion Kit. Continue Vendor Interoperability and Integration Testing with emerging Navy sensor systems such as BAMS, MMA, GHMD, F/A-18 SHARP, P-3C AIP, and EP-3E Multi-int systems. Design and Develop KGV-135A communications security Module. Design and Develop CDLS Interfaces with Automated Data Network System (ADNS). Develop JTRS Software Communications Architecture (SCA) Core Framework for CDLS.</p> <p>FY06 - Continue Integration and Test of Phased Array Antenna Systems sub-array assemblies. Continue Design and develop CDLS Spiral 1 Advanced Networking Technology Insertion Kit. Continue Vendor Interoperability and Integration Testing with emerging Navy sensor systems such as BAMS, MMA, GHMD, F/A-18 SHARP, P-3C AIP, and EP-3E Multi-int systems. Continue Design and Develop KGV-135A COMSEC Module. Continue Design and Develop CDLS Interfaces with ADNS. Continue Development of JTRS SCA Core Framework for CDLS.</p> <p>FY07 - Develop ECP for CDLS Spiral 1 Advanced Networking Technology Insertion Kit for KGV-135A COMSEC Module and CDLS Interfaces with ADNS. Continue Integration and Test of Phased Array Antenna Systems sub-array assemblies. Continue Vendor Interoperability and Integration Testing with emerging Navy sensor systems such as BAMS, MMA, GHMD, F/A-18 SHARP, P-3C AIP, and EP-3E Multi-int systems. Develop ECP for JTRS SCA Core Framework for CDLS.</p> <p>Note: Name change from CDL-N Block 1 to CDLS.</p> </div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	4.000	4.000	2.500	2.500	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	4.000	4.000	2.500	2.500															
RDT&E Articles Quantity																			

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME PE 0604721N Battle Group Passive Horizon Extension System	PROJECT NUMBER AND NAME 2134/SHIPBOARD IW EXPLOIT		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.285	0.800		
RDT&E Articles Quantity				
<p>Cryptologic On-Line Trainer (COLT)</p> <p>FY04 - Modified COLT server in support of integration with Cryptologic Unified Build (CUB) 5.X software releases. Upgraded COLT client application functionality (SSEE Inc E, COBLU Phase 1, and CDF) to include additional Signals of Interest (SOI) and other emergent requirements. Began COLT integration with Battle Force Tactical Training (BFTT) system.</p> <p>FY05 - Complete modifications and improvements to COLT server in support of CUB 5.X integration. Upgrade existing COLT client applications (SSEE Inc E, COBLU Phase 1, and CDF). Complete COLT Battle Force Tactical Trainer (BFTT) integration development.</p> <p>Note: Current migration plan for COLT to be integrated into the SSEE Program.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.000	1.000		
RDT&E Articles Quantity				
<p>Cryptologic Unified Build (CUB)</p> <p>FY04 - Initiated development of Cryptologic Unified Build (CUB) software to incorporate latest DII COE*. CUB ensures interoperability between Sensor Systems and C4I systems. This development effort targeted the DII COE 4.X baseline.</p> <p>FY05 - Continue development and integration of CUB software to incorporate DII COE 4.Y baseline. This development effort completes the DII COE 4.Y baseline. Continue development of CUB On-Line Tutorial, CUBOLT, software.</p> <p>*DII COE - Defense Information Infrastructure (DII) Common Operating Environment (COE)</p> <p>Note: Current migration plan for CUB to be integrated into the SSEE Program.</p>				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME PE 0604721N Battle Group Passive Horizon Extension System	PROJECT NUMBER AND NAME 2134/SHIPBOARD IW EXPLOIT																
(U) B. Accomplishments/Planned Program																		
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">5.000</td> <td style="text-align: center;">3.763</td> <td style="text-align: center;">1.000</td> <td></td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>					FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	5.000	3.763	1.000		RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07														
Accomplishments/Effort/Subtotal Cost	5.000	3.763	1.000															
RDT&E Articles Quantity																		
<div style="border: 1px solid black; padding: 5px;"> <p>Multi-Mission Payload (MMP)</p> <p>FY04 - Initiated System Development Phase of the remotely controlled platform independent MMP, intended for use as a pod on ship based aircraft. Awarded contracts for research and development of Engineering Development Models, EDMs. Conducted design review and perform end-to-end system engineering analysis. Performed aircraft data analysis and performed integration planning to develop the appropriate engineering design of the payload and its mechanical, electrical and environmental interface components. Determined design and interfaces of the data link equipment, which will be part of or co-located with the MMP to carry the command, control, and data exchange signals. Developed Test Plan.</p> <p>FY05 - Complete development of the EDMs pod and conduct laboratory acceptance tests. Obtain Flight Certification and complete testing. Perform the Office of Naval Intelligence, ONI, certification and accreditation for Interim Authority To Operate, IATO. Perform land-based flight tests and demonstrations.</p> <p>FY06 - Complete carrier launch qualifications and perform flight demonstrations on carrier launched aircraft.</p> </div>																		
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">2.000</td> <td style="text-align: center;">5.111</td> <td style="text-align: center;">12.726</td> <td style="text-align: center;">12.962</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>					FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	2.000	5.111	12.726	12.962	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07														
Accomplishments/Effort/Subtotal Cost	2.000	5.111	12.726	12.962														
RDT&E Articles Quantity																		
<div style="border: 1px solid black; padding: 5px;"> <p>Ship Signal Exploitation Equipment</p> <p>FY04 - Initiated P3I development of Command and Control software portion of the Hostile force Integrated Targeting Sub-system (HITS) and Time/Frequency Difference of Arrival functions into SSEE Incr E.</p> <p>FY05 - Continue with effort to improve Command and Control software portion of the HITS in SSEE Incre E. Continue to expand Signals of Interest (SOI) processing capability to priority signal sets. Fully test improved software. Initiate acquisition development for follow-on increments.</p> <p>FY06 - Continue with effort to improve Command and Control software portion of the HITS in SSEE Incre E. Continue to expand SOI processing capability to priority signal sets. Fully test improved software. Conduct Follow-On Test and Evaluation (FOT&E). Modify COLT server to upgrade current software releases. Continue development and integration of Cryptologic Unified Build (CUB) software. Continue acquisition development for SSEE Inc F to support Engineering Development Models (EDM), integration, testing and remoting of manned and unmanned platforms.</p> <p>FY07 - Continue to expand SOI processing capability to priority signal sets. Fully test improved software. Modify COLT server to upgrade current software releases. Continue development and integration of CUB software. Continue acquisition development for SSEE Inc F to support Engineering Development Models (EDM), integration, testing and remoting of manned and unmanned platforms.</p> <p>Note: CUB and COLT will be migrated into SSEE Program beginning FY 06.</p> </div>																		

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N / BA 5	PE 0604721N Battle Group Passive Horizon Extension System	2134/SHIPBOARD IW EXPLOIT		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.792	1.618	1.230	1.254
RDT&E Articles Quantity				
<p>Specific Emitter Identification (SEI)</p> <p>FY04 - Conducted independent test and evaluation and compatibility testing of SEI software and began retooling existing prototypes into a single platform, Phase II. Formalized Navy SEI data standards for improved collection and dissemination. Began integration of SEI capabilities into the Naval single platform distributed surface EW system. Continued to expand SEI database access, dissemination, and integration within the Theater Correlation Functions (TCFs) and tactical users. Continued to address SEI software operational issues to facilitate SEI tactical employment. Continued SEI software enhancements in GCCS-M (CORRUS), GALE-LITE, and other fielded systems.</p> <p>FY05 - Continue to improve SEI software Phase III to support additional tactical installations, surface combatants, and airborne platforms. Enhance the exchange of Navy SEI data. Begin incorporation of future SEI algorithms corresponding to the next generation of multi-mission combatants and changing target sets. Continue incorporation of SEI into the overall Navy EW architecture for enhanced correlation and integration into Navy single platform distributed EW systems, to include surface, subsurface, and airborne.</p> <p>FY06 - Continue incorporation of next generation SEI algorithms into existing fielded SEI systems with new algorithms and software. Increase capabilities to distribute and utilize SEI data in network centric architectures. Enhance automation capabilities of SEI collection, processing, and reporting software. Integrate geolocation information with SEI systems. Continue incorporation of SEI into ELINT and the overall Navy EW architecture, and use of COTS hardware for SEI data extraction. Develop software enhancements in GCCS-M, GALE Lite, and other fielded systems to support next generation SEI capabilities and data types. Pursue SEI-based deinterleaving for tactical and high volume collectors. Pursue enhanced SEI algorithms and techniques.</p> <p>FY07 - Continue reprogramming of existing fielded SEI systems with new algorithms and software. Continue improvements to network based SEI data distribution and utilization. Continue SEI software enhancements to maximize automation of SEI collection & reporting. Continue integration of geolocation, SEI, and other data. Continue incorporation of SEI into ELINT and the overall Navy EW architecture with the goal of SEI being absorbed into ELINT. Continue software enhancements in GCCS-M, GALE Lite, and other fielded systems to support new SEI capabilities and data types. Continue to pursue enhanced SEI algorithms and techniques, SEI-based deinterleaving, and other SEI applications.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.650	1.500	1.000	1.020
RDT&E Articles Quantity				
<p>Antenna & RF Distribution</p> <p>FY04 - Implemented design goals and objectives for existing antenna and future antenna efforts via requirements analysis. Completed development of existing antenna upgrades for enhanced capability. Initiated prototype demonstration effort for future antenna design for low signature direction finding (DF) and acquisition/enhanced capability and initiation of shipboard EDM plans.</p> <p>FY05 - Update requirements analysis to maintain growing Signals of Interest (SOI) threat capability support via system radio frequency distribution (RFD) unit and future antenna upgrades. Continue development of future antenna for low signature DF and acquisition/enhanced performance.</p> <p>FY06 - Continue development of antenna & radio frequency (RF) tools to enhance future capabilities via new technologies, EDM development, testing and certification.</p> <p>FY07 - Continue development of antenna & RF tools to enhance future capabilities via new technologies, EDM development, testing and certification.</p>				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 5	PE 0604721N Battle Group Passive Horizon Extension System	2134/SHIPBOARD IW EXPLOIT

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY2005 President's Budget	16.743	17.981	18.730	16.044
FY2006 President's Budget	16.727	17.792	18.456	17.736
Total Adjustments	-0.016	-0.189	-0.274	1.692

Summary of Adjustments

Congressional Adjustments				
Congressional Rescissions		-0.167		
Reprogrammings				
Programmatic Adjustments		-0.022	-0.394	1.509
Economic Assumptions	-0.016		0.148	0.165
Pricing Adjustments			-0.028	0.018
SBIR/STTR Transfers				
Subtotal	-0.016	-0.189	-0.274	1.692

(U) Schedule:
Not Applicable.

(U) Technical:
Not Applicable.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME PE 0604721N Battle Group Passive Horizon Extension Sy			PROJECT NUMBER AND NAME 2134/SHIPBOARD IW EXPLOIT			
(U) D. OTHER PROGRAM FUNDING SUMMARY:								
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
OPN Line 2360	119.766	68.772	62.721	77.637	64.598	86.510	96.309	83.919
 (U) E. ACQUISITION STRATEGY: *								
Acquisition, management and contracting strategies are to support engineering and manufacturing development by providing funds to SSC-Charleston, SSC-San Diego and miscellaneous contractors, with management oversight by SPAWAR.								

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)

DATE:

February 2005

APPROPRIATION/BUDGET ACTIVITY

PROGRAM ELEMENT

PROJECT NUMBER AND NAME

RDT&E, N / BA 5

PE 0604721N Battle Group Passive Horizon Extension Sys 2134/SHIPBOARD IW EXPLOIT

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Various	Various	39.994	3.970	12/04	5.350	12/05	6.250	12/06	Continuing	Continuing	Continuing
Ancillary Hardware Development											0.000	0.000
Systems Engineering	Various	Various	6.669	5.074		4.674		2.933		Continuing	Continuing	Continuing
Training Development	Various	Various	0.168	0.075		0.093		0.100		Continuing	Continuing	Continuing
Licenses											0.000	
Tooling											0.000	0.000
GFE											0.000	0.000
Award Fees											0.000	0.000
Subtotal Product Development			46.831	9.119		10.117		9.283		Continuing	Continuing	Continuing

Remarks:

Development Support											0.000	0.000
Software Development	Various	Various	10.549	3.738		3.811		4.828		Continuing	Continuing	Continuing
Training Development											0.000	0.000
Integrated Logistics Support	Various	Various	0.485	0.136		0.130		0.145		Continuing	Continuing	Continuing
Configuration Management	Various	Various	0.199	0.117		0.120		0.125		Continuing	Continuing	Continuing
Technical Data											0.000	0.000
GFE											0.000	0.000
Subtotal Support			11.233	3.991		4.061		5.098		Continuing	Continuing	Continuing

Remarks:

CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)									DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA 5			PE 0604721N Battle Group Passive Horizon Extension Sys			2134/SHIPBOARD IW EXPLOIT						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various	3.927	0.927	12/04	0.868	12/05	0.680	12/06	Continuing	Continuing	Continuing
Operational Test & Evaluation	Various	Various	0.716	0.421		0.395		0.250		Continuing	Continuing	Continuing
Live Fire Test & Evaluation											0.000	0.000
Test Assets	Various	Various	0.746	0.439		0.412		0.150		Continuing	Continuing	Continuing
Tooling											0.000	0.000
GFE											0.000	0.000
Subtotal T&E			5.389	1.787		1.675		1.080		Continuing	Continuing	Continuing
Remarks:												
Contractor Engineering Support											0.000	0.000
Government Engineering Support											0.000	0.000
Program Management Support	Various	Various	5.923	2.743		2.461		2.123		Continuing	Continuing	Continuing
Travel	Various	Various	0.257	0.152		0.142		0.152		Continuing	Continuing	Continuing
Subtotal Management			6.180	2.895		2.603		2.275		0.000	13.953	0.000
Remarks:												
Total Cost			69.633	17.792	0.000	18.456	0.000	17.736	0.000	Continuing	Continuing	Continuing
Remarks:												

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EXHIBIT R4, Schedule Profile																								DATE: February 2005								
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME												
RDT&E, N / BA- 5										PE 0604721N Battle Group Passive Horizon Extension System										2134 SHIPBOARD IW EXPLOIT/COMMUNICATIONS DATA LINK-SYSTEM (CDLS)												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones									MSD △				FOC △																			
Test & Evaluation Milestones																																
Development Test																																
Operational Test																																
Interoperability Testing																																
Production Milestones																																
LRIP I																																
LRIP II																																
FRP FY04																																
Deliveries																																
Development Milestones																																
Phased Array Ant Interfaces																																
Spiral 1 Design																																
Spiral 1 ECP Dev																																
JTRS SCA Core Framework																																
JTRS SCA ECP Dev																																
Vendor Interop & Int Testing																																

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE: February 2005								
APPROPRIATION/BUDGET ACTIVITY												Multi-Mission Payload												DATE: February 2005								
RDT&E, N / BA- 5												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME								
												PE 0604721N Battle Group Passive Horizon Extension System												2134 SHIPBOARD IW EXPLOIT/MULTI-MISSION PAYLOAD (MMP)								
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones	EDM Award ▲			AoA ▲								MS B △																				
System Development			A/C Analysis ▲	A/C Integration ▲	Planning □																											
Equipment Delivery EDM Delivery				DR ▲				EDM Deliveries △																								
Software																																
Test & Evaluation Milestones								Lab Tests △																								
Development Test																																
Operational Test																																
Production Milestones																																
LRIP I																																
LRIP II																																
FRP																																
Deliveries																																

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EXHIBIT R4, Schedule Profile		SHIPS SIGNAL EXPLOITATION EQUIPMENT INCREMENT E (SSEE Incr E)																												DATE: February 2005									
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME																PROJECT NUMBER AND NAME													
RDT&E, N / BA- 5										PE 0604721N Battle Group Passive Horizon Extension System																2134 SHIPBOARD IW EXPLOIT/SHIPS SIGNAL EXPLOITATION EQUIPMENT INCREMENT E (SSEE Incr E)													
Fiscal Year		2004				2005				2006				2007				2008				2009				2010				2011									
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3											
Acquisition Milestones				INC E MSD ▲	INC E IOC ▲					SSEE Inc F Award ▲	Contract Award							INC F MSC ▲	INC F FRP ▲	INC F MSD ▲		INC F IOC ▲																	
System Development (e.g., Radar System dev.)										PDR ▲	SSR ▲	CDR ▲																											
SSEE INC F EDMs																INC F EDMs ▲																							
Software Development SSEE Inc E		LRIP BUILD 2										Full Rate Production Build Inc E																											
LRIP Baseline SW Development		FRP																																					
FRP Baseline SW Development		FRP																																					
SSEE Inc F EDM Baseline SW Development												EDM Build Inc F																											
FRP Baseline SW Development																																							
Full Rate Production Build Inc F																																							
Test & Evaluation Milestones																	INC F DT ▲																						
Development Test												SSEE Inc E FOT&E															SSEE Inc F FOT&E												
Operational Test												▲	▲	▲					INC F OT ▲								▲												
Production Milestones																																							
LRIP FY 03 SSEE Inc E		LRIP Deliveries																																					
FRP FY 04 SSEE Inc E						FRP FY04																																	
FRP FY 05 SSEE Inc E										FRP FY05																													
FRP FY 06 SSEE Inc E														FRP FY06																									
FRP FY 07 SSEE Inc E																		FRP FY07																					
FRP FY 08 SSEE Inc E																						FRP FY08																	
FRP FY 09 SSEE Inc F																										FRP FY09													
FRP FY 10 SSEE Inc F																														FRP FY10									
Deliveries		LRIP(6)				FRP(14)				FRP(9)				FRP(9)				FRP(11)				FRP(9)				FRP(13)				FRP(15)									

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SSEE is a spiral development program.

FY09 will introduce a future Increment with new antenna design and P3I.

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EXHIBIT R4, Schedule Profile																												DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME								
RDT&E, N / BA- 5												PE 0604721N Battle Group Passive Horizon Extension System												2134 SHIPBOARD IW EXPLOIT/CRYPTOLOGIC UNIFIED BUILD (CUB)								
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones																																
Software																																
4.X SW Development																																
4.X SDT&E																																
4.X System Documentation																																
4.X Software Delivery																																
4.Y SW Development																																
4.Y SDT&E																																
4.Y System Documentation																																
4.Y Software Delivery																																
Test & Evaluation Milestones																																
Development Test																																
Operational Test																																
Production Milestones																																

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EXHIBIT R4, Schedule Profile																								DATE: February 2005								
APPROPRIATION/BUDGET ACTIVITY								PROGRAM ELEMENT NUMBER AND NAME								PROJECT NUMBER AND NAME																
RDT&E, N / BA- 5								PE 0604721N Battle Group Passive Horizon Extension System								2134 SHIPBOARD IW EXPLOIT/ANTENNA RF DISTRIBUTION (ARFD)																
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones				Award Contract △																												
Prototype Phase	■				▢				▢				▢																			
System Development								SDR △				SDR △				SDR △																
EDM Delivery Four EDMs				EDM ▲				EDM △				EDM △				EDM △																
Test & Evaluation Milestones																																
FAT			FAT ▲				FAT △				FAT △				FAT △																	
Developmental Test												DT △																				
Production Milestones																Production rolled into SSEE																
Deliver Design Package to SSEE																	△															
Deliveries																																

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Prototype Phase consist of antenna performance/probability studies.

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[illegible]

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EXHIBIT R4, Schedule Profile																								DATE: February 2005								
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME								
RDT&E, N / BA- 5												PE 0604721N Battle Group Passive Horizon Extension System												2134 SHIPBOARD IW EXPLOIT/SPECIFIC EMITTER IDENTIFICATION (SEI)								
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Software																																
Version 1 SW Development																																
Version 1 SDT&E																																
Version 1 HW integration																																
Version 1 Software Delivery																																
Version 2 SW Development																																
Version 2 Software Delivery																																
Version 3 SW Development																																
Version 3 Software Delivery																																
Version 4 SW Development																																
Version 4 Software Delivery																																
Final Build Delivery																																
Product Maint. & Sustainment																																
Maintenance Releases																																
Test & Evaluation Milestones	Compatibility Testing																															
Compatibility Testing	▲				OT - V1		OT - V2		OT - V3		OT - Final																					
Operational Test					▲		▲		▲		▲																					
Production Milestones																																
FY04																																
FY05																																
FY06																																
FY07																																
FY08																																
FY09																																
FY10																																
FY11																																
Deliveries																																
FRP																																
Deliveries																																

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E, N / BA 5	PE 0604721N Battle Group Passive Horizon Extension System				2134 SHIPBOARD IW EXPLOIT/SPECIFIC EMITTER IDENTIFICATION (SEI)			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
SURPAS Development								
Phase 1 - Software Delivery	Q1-4							
Phase 2 - Software Delivery	Q4	Q1						
Phase 3 - Software Delivery		Q2-3						
Phase 4 - Software Delivery		Q4	Q1					
Technical Information Meeting	Q1-Q4	Q1-Q4	Q1-Q4					
Software Delivery	Q4	Q2 & Q4	Q2					
Software Maintenance Release				Q1 & Q3	Q1 & Q3	Q1 & Q3	Q1 & Q3	Q1 & Q3
Hardware/software compatibility testing	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4
Test Readiness Review (TRR)	Q4	Q2 & Q4	Q2					
Developmental Testing (DT-IIA)	Q1-Q4	Q1-Q4	Q1-Q2					
Logistics								
Operational Testing (OT-IIA)	Q4	Q2 & Q4	Q2					
Start Low-Rate Initial Production I (LRIP I)			Q3					
IOC			Q3					

R-1 SHOPPING LIST - Item No. 124

CLASSIFICATION:								
EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME PE 0604721N Battle Group Passive Horizon Extension System				PROJECT NUMBER AND NAME 9581/AIRBORNE COMMUNICATIONS INTERCEPT POD (ACIF)		
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	0.000	1.685	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>AIRBORNE COMMUNICATIONS INTERCEPT POD (ACIF): - Funds will support the test and evaluation of communications module; documentation; test and evaluation of additional interface capabilities for different type aircraft. Test and evaluation of antennas for airborne pod operation. The add will also provide engineering support for flight clearances and for test support engineering.</p>								

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME PE 0604721N Battle Group Passive Horizon Extension System	PROJECT NUMBER AND NAME 9581/AIRBORNE COMMUNICATIONS INTERCEPT POD (ACIF)		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		1.685		
RDT&E Articles Quantity				
<p>X9581/AIRBORNE COMMUNICATIONS INTERCEPT POD (ACIF): - Funds will support the test and evaluation of communications module; documentation; test and evaluation of additional interface capabilities for different type aircraft. Test and evaluation of antennas for airborne pod operation. The add will also provide engineering support for flight clearances and for test support engineering.</p>				

R-1 SHOPPING LIST - Item No. 124

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: <div style="text-align: right;">February 2005</div>
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 5	PE 0604721N Battle Group Passive Horizon Extension System	9581/AIRBORNE COMMUNICATIONS INTERCEPT POD (ACIF)

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY2005 President's Budget	0.000	0.000	0.000	0.000
FY2006 President's Budget	0.000	1.685	0.000	0.000
Total Adjustments	0.000	1.685	0.000	0.000
Summary of Adjustments				
Congressional Increase		1.700		
Congressional Rescissions		-0.015		
Subtotal	1.685			

(U) Schedule:
Not Applicable.

(U) Technical:
Not Applicable.

R-1 SHOPPING LIST - Item No. 124

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)

DATE:

February 2005

APPROPRIATION/BUDGET ACTIVITY

PROGRAM ELEMENT

PROJECT NUMBER AND NAME

RDT&E, N / BA 5

PE 0604721N Battle Group Passive Horizon Extension Sys 9581/AIRBORNE COMMUNICATIONS INTERCEPT POD (ACIF)

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development										Continuing	Continuing	Continuing
Ancillary Hardware Development												
Systems Engineering												
Training Development												
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development												

Remarks:

Development Support												
Software Development												
Training Development												
Integrated Logistics Support												
Configuration Management												
Technical Data												
GFE												
Subtotal Support												

Remarks:

CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT				PROJECT NUMBER AND NAME				
RDT&E, N / BA 5				PE 0604721N Battle Group Passive Horizon Extension Sys				9581/AIRBORNE COMMUNICATIONS INTERCEPT POD (ACIF)				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	CPFF	Sensytech		1.348								
Operational Test & Evaluation												
Live Fire Test & Evaluation												
Test Assets												
Tooling												
GFE												
Subtotal T&E				1.348								
Remarks:												
Contractor Engineering Support												
Government Engineering Support												
Program Management Support	Various	Various		0.169								
Travel	Various	Various		0.168								
Subtotal Management				0.337								
Remarks:												
Total Cost				1.685								
Remarks:												

R-1 SHOPPING LIST - Item No. 124

CLASSIFICATION:								
EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME PE 0604721N Battle Group Passive Horizon Extension System				PROJECT NUMBER AND NAME 9582 ANTI-TERRORISM TECHNOLOGY SURVEILLANCE SYSTEM		
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Project Cost		0.000	1.090	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>AIRBORNE COMMUNICATIONS INTERCEPT POD (ACIF): - Funds will support the test and evaluation of communications module; documentation; test and evaluation of additional interface capabilities for different type aircraft. Test and evaluation of antennas for airborne pod operation. The add will also provide engineering support for flight clearances and for test support engineering.</p>								

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME PE 0604721N Battle Group Passive Horizon Extension System	PROJECT NUMBER AND NAME 9582 ANTI-TERRORISM TECHNOLOGY SURVEILLANCE SYSTEM																	
(U) B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;"></td> <td style="width: 15%; text-align: center;">FY 04</td> <td style="width: 15%; text-align: center;">FY 05</td> <td style="width: 15%; text-align: center;">FY 06</td> <td style="width: 15%; text-align: center;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td></td> <td style="text-align: center;">1.090</td> <td></td> <td></td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; height: 250px; margin-top: 10px; padding: 10px;"> <p>X9582 ANTI-TERRORISM TECHNOLOGY SURVEILLANCE SYSTEM: - Funds will support Phase III SBIR to ATTSS for the development of 2 Engineering Development Models to be provided to the Mobile Inshore Undersea Warfare System Upgrade (MIUW-SU).</p> </div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost		1.090			RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost		1.090																	
RDT&E Articles Quantity																			

R-1 SHOPPING LIST - Item No. 124

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: <div style="text-align: right;">February 2005</div>
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 5	PE 0604721N Battle Group Passive Horizon Extension System	9582 ANTI-TERRORISM TECHNOLOGY SURVEILLANCE SYSTEM

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY2005 President's Budget	0.000	0.000	0.000	0.000
FY2006 President's Budget	0.000	1.090	0.000	0.000
Total Adjustments	0.000	1.090	0.000	0.000
Summary of Adjustments				
Congressional Increase		1.100		
Congressional Rescissions		-0.010		
Subtotal	1.090			

(U) Schedule:
Not Applicable.

(U) Technical:
Not Applicable.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)

DATE:

February 2005

APPROPRIATION/BUDGET ACTIVITY

PROGRAM ELEMENT

PROJECT NUMBER AND NAME

RDTE&E, N / BA 5

PE 0604721N Battle Group Passive Horizon Extension System

9582 ANTI-TERRORISM TECHNOLOGY SURVEILLANCE SYSTEM

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development										Continuing	Continuing	Continuing
Ancillary Hardware Development												
Systems Engineering	CPFF	Promia, San Diego, CA		0.400								
Training Development												
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development				0.400								

Remarks:

Development Support												
Software Development	Various	Various		0.500								
Training Development												
Integrated Logistics Support												
Configuration Management												
Technical Data												
GFE												
Subtotal Support				0.500								

Remarks:

R-1 SHOPPING LIST - Item No. 124

CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)									DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT						PROJECT NUMBER AND NAME			
RDT&E, N / BA 5			PE 0604721N Battle Group Passive Horizon Extension System						9582 ANTI-TERRORISM TECHNOLOGY SURVEILLANCE SYSTEM			
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation												
Operational Test & Evaluation												
Live Fire Test & Evaluation												
Test Assets												
Tooling												
GFE												
Subtotal T&E												
Remarks:												
Contractor Engineering Support												
Government Engineering Support												
Program Management Support	Various	Various		0.190								
Travel												
Subtotal Management				0.190								
Remarks:												
Total Cost				1.090								
Remarks:												

R-1 SHOPPING LIST - Item No. 124

CLASSIFICATION:								
EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME PE 0604721N Battle Group Passive Horizon Extension System				PROJECT NUMBER AND NAME 9584/SHIPBOARD INFORMATION WARFARE EXPOIT		
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	0.000	4.261	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>SHIPBOARD INFORMATION WARFARE EXPOIT: - Funds are to develop organic Electronic Intelligence (ELINT) collection, response, processing and integration, which will provide individual ships with an integrated and consolidated SIGINT picture of the threat battle space. This add will address the ORD requirements to provide SSEE with a tactical organic ELINT capability.</p>								

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME PE 0604721N Battle Group Passive Horizon Extension System	PROJECT NUMBER AND NAME 9584/SHIPBOARD INFORMATION WARFARE EXPOIT		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		4.261		
RDT&E Articles Quantity				
<div style="border: 1px solid black; min-height: 200px; margin-top: 10px;"> <p>X9584/SHIPBOARD INFORMATION WARFARE EXPOIT: - Funds are to develop organic ELINT collection, response, processing and integration, which will provide individual ships with an integrated and consolidated SIGINT picture of the threat battle space. This add will address the ORD requirements to provide SSEE with a tactical organic ELINT capability.</p> </div>				

R-1 SHOPPING LIST - Item No. 124

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N / BA 5	PE 0604721N Battle Group Passive Horizon Extension System	9584/SHIPBOARD INFORMATION WARFARE EXPOIT		
(U) C. PROGRAM CHANGE SUMMARY:				
(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY2005 President's Budget	0.000	0.000	0.000	0.000
FY2006 President's Budget	0.000	4.261	0.000	0.000
Total Adjustments	0.000	4.261	0.000	0.000
Summary of Adjustments				
Congressional Increase		4.300		
Congressional Rescissions		-0.039		
Subtotal				
		4.261		
(U) Schedule:				
Not Applicable.				
(U) Technical:				
Not Applicable.				

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT					PROJECT NUMBER AND NAME				
RDT&E, N / BA 5			PE 0604721N Battle Group Passive Horizon Extension System					9584/SHIPBOARD INFORMATION WARFARE EXPOIT				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development										Continuing	Continuing	Continuing
Ancillary Hardware Development												
Systems Engineering	FFP	ARGON, Fairfax, VA		1.278	02/05							
Training Development												
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development				1.278								
Remarks:												
Development Support												
Software Development	FFP	ARGON, Fairfax, VA		1.492	02/05							
Training Development												
Integrated Logistics Support	FFP	ARGON, Fairfax, VA		0.426	02/05							
Configuration Management	FFP	ARGON, Fairfax, VA		0.213	02/05							
Technical Data												
GFE												
Subtotal Support				2.131								
Remarks:												

R-1 SHOPPING LIST - Item No. 124

CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)									DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5				PROGRAM ELEMENT PE 0604721N Battle Group Passive Horizon Extension System					PROJECT NUMBER AND NAME 9584/SHIPBOARD INFORMATION WARFARE EXPOIT			
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	FFP	ARGON, Fairfax, VA		0.426	02/05							
Operational Test & Evaluation												
Live Fire Test & Evaluation												
Test Assets												
Tooling												
GFE												
Subtotal T&E				0.426								
Remarks:												
Contractor Engineering Support												
Government Engineering Support												
Program Management Support	FFP	ARGON, Fairfax, VA		0.426	02/05							
Travel												
Subtotal Management				0.426								
Remarks:												
Total Cost				4.261								
Remarks:												

R-1 SHOPPING LIST - Item No. 124

CLASSIFICATION:								
EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME PE 0604721N Battle Group Passive Horizon Extension System				PROJECT NUMBER AND NAME 9586/SMART SIGNAL PARSER AND ACTIONABLE INTELLIGENCE		
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	0.000	3.170	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>SMART SIGNAL PARSER AND ACTIONABLE INTELLIGENCE: - Funds are provided to develop and expand the applied Special Signal rule set and to expand the subject signal set to cover the larger number of signal types that are required. Obtain message textual para data for special signal case to create template module to process new bit data; to expand the AIE data mining capability to cover additional signal types and expand actionable intelligence extraction rule set that permit automated actionable intelligence extraction of other key signals of interest in the war on terror.</p>								

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME PE 0604721N Battle Group Passive Horizon Extension System	PROJECT NUMBER AND NAME 9586/SMART SIGNAL PARSER AND ACTIONABLE INTELLIGENCE		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		3.170		
RDT&E Articles Quantity				
<p>X9586/SMART SIGNAL PARSER AND ACTIONABLE INTELLIGENCE: - Funds are provided to develop and expand the applied Special Signal rule set and to expand the subject signal set to cover the larger number of signal types that are required. Obtain message textual para data for special signal case to create template module to process new bit data; to expand the AIE data mining capability to cover additional signal types and expand actionable intelligence extraction rule set that permit automated actionable intelligence extraction of other key signals of interest in the war on terror.</p>				

R-1 SHOPPING LIST - Item No. 124

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE:	February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N / BA 5	PE 0604721N Battle Group Passive Horizon Extension System	9586/SMART SIGNAL PARSER AND ACTIONABLE INTELLIGENCE		
(U) C. PROGRAM CHANGE SUMMARY:				
(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY2005 President's Budget	0.000	0.000	0.000	0.000
FY2006 President's Budget	0.000	3.170	0.000	0.000
Total Adjustments	0.000	3.170	0.000	0.000
Summary of Adjustments				
Congressional Increase		3.200		
Congressional Rescissions		-0.030		
Subtotal		3.170		
(U) Schedule:				
Not Applicable.				
(U) Technical:				
Not Applicable.				

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA 5				PROGRAM ELEMENT PE 0604721N Battle Group Passive Horizon Extension System				PROJECT NUMBER AND NAME 9586/SMART SIGNAL PARSER AND ACTIONABLE INTELLIGENCE				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development										Continuing	Continuing	Continuing
Ancillary Hardware Development												
Systems Engineering	Various	Various		1.043	02/05							
Training Development												
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development				1.043								
Remarks:												
Development Support												
Software Development	Various	Various		1.557	02/05							
Training Development												
Integrated Logistics Support												
Configuration Management												
Technical Data												
GFE												
Subtotal Support				1.557								
Remarks:												

R-1 SHOPPING LIST - Item No. 124

CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)									DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5				PROGRAM ELEMENT PE 0604721N Battle Group Passive Horizon Extension System					PROJECT NUMBER AND NAME 9586/SMART SIGNAL PARSER AND ACTIONABLE INTELLIGENCE			
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various		0.150	02/05							
Operational Test & Evaluation												
Live Fire Test & Evaluation												
Test Assets												
Tooling												
GFE												
Subtotal T&E				0.150								
Remarks:												
Contractor Engineering Support												
Government Engineering Support												
Program Management Support	Various	Various		0.400	02/05							
Travel	Various	Various		0.020	02/05							
Subtotal Management				0.420								
Remarks:												
Total Cost				3.170								
Remarks:												

R-1 SHOPPING LIST - Item No. 124

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					R-1 ITEM NOMENCLATURE 0604727N Joint Standoff Weapon System			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	4.910	10.874	13.517	13.009	6.351	0.534	0.586	0.638
2068 Joint Standoff Weapon (JSOW)	0.744	10.874	13.517	13.009	6.351	0.534	0.586	0.638
9393 Pulsed Radio Frequency Emitters (PRFE)	4.166							

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Joint Standoff Weapon (JSOW) is an air-to-ground weapon designed to attack a variety of targets during day, night and adverse weather conditions. JSOW will enhance aircraft survivability as compared to current interdiction weapon systems by providing the capability for launch aircraft to standoff outside the range of most target area surface-to-air threat systems. The JSOW launch-and-leave capability will allow several target kills per aircraft sortie. The JSOW program first developed a baseline weapon for use against fixed area targets. JSOW is a Navy-led joint Navy/Air Force program.

The JSOW Baseline (AGM-154A) variant includes a kinematically efficient airframe, an integrated Inertial/Global Positioning System (INS/GPS) navigation capability, and a BLU-97/B or BLU-111 payload. This weapon is designed up front for pre-planned product improvements. The JSOW BLU-108 (AGM-154B) variant incorporates the Sensor Fuze Weapon submunition (BLU-108) into the baseline vehicle. Planned production of the JSOW/BLU-108 is deferred. The JSOW Unitary (AGM-154C) variant has a terminal seeker, Autonomous Target Acquisition (ATA) capability, and a Broach lethal package to enable the attack of blast/fragmentation and penetration type targets. The JSOW Unitary will provide increased accuracy and lethality and the capability for aimpoint selection. Operational Testing of the JSOW-C was successfully completed in December 2004. Approval for Milestone-III/Full Rate Production was granted on 20 December 2004.

The FY 2004 budget includes a Congressional add to complete a test and evaluation program for Pulsed Radio Frequency Emitters (PRFE).

FY 2005-2006 includes funding to integrate a Selective Availability Anti-Spoofing Module (SAASM) based GPS receiver per the Joint Chiefs of Staff mandate. Concurrent with the SAASM integration, a new computer processor will be integrated to replace the existing obsolete 486 processor. The effort will focus on concurrent cost reduction opportunities. FY 2005-2011 includes funding to integrate new functionality into the Joint Mission Planning Systems (JMPS) and Common Unique Planning Component (CUPC). FY 2006-2008 includes funding for development, integration, and qualification of a moving/relocatable target capability into the JSOW-C (AGM-154C) variant.

JSOW utilizes a "common truck" for both AGM-154A and AGM-154C variants. Through adherence to international standards for weapons interfaces, weight, and dimension considerations, JSOW is compatible with Air Force and NATO aircraft.

R-1 SHOPPING LIST - Item No.

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 1 of 10)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604727N Joint Standoff Weapon System				PROJECT NUMBER AND NAME 2068 Joint Standoff Weapon (JSOW)			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	0.744	10.874	13.517	13.009	6.351	0.534	0.586	0.638
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Joint Standoff Weapon (JSOW) is an air-to-ground weapon designed to attack a variety of targets during day, night and adverse weather conditions. JSOW will enhance aircraft survivability as compared to current interdiction weapon systems by providing the capability for launch aircraft to standoff outside the range of most target area surface-to-air threat systems. The JSOW launch-and-leave capability will allow several target kills per aircraft sortie. The JSOW program first developed a baseline weapon for use against fixed area targets. JSOW is a Navy-led joint Navy/Air Force program.

The JSOW Baseline (AGM-154A) variant includes a kinematically efficient airframe, an integrated Inertial/Global Positioning System (INS/GPS) navigation capability, and a BLU-97/B or BLU-111 payload. This weapon is designed up front for pre-planned product improvements. The JSOW BLU-108 (AGM-154B) variant incorporates the Sensor Fuze Weapon submunition (BLU-108) into the baseline vehicle. Planned production of the JSOW/BLU-108 is deferred. The JSOW Unitary (AGM-154C) variant has a terminal seeker, Autonomous Target Acquisition (ATA) capability, and a Broach lethal package to enable the attack of blast/fragmentation and penetration type targets. The JSOW Unitary will provide increased accuracy and lethality and the capability for aimpoint selection. Operational Testing of the JSOW-C was successfully completed in December 2004. Approval for Milestone-III/Full Rate Production was granted on 20 December 2004.

FY 2005-2006 includes funding to integrate a Selective Availability Anti-Spoofing Module (SAASM) based GPS receiver per the Joint Chiefs of Staff mandate. Concurrent with the SAASM integration, a new computer processor will be integrated to replace the existing obsolete 486 processor. The effort will focus on concurrent cost reduction opportunities. FY 2005-2011 includes funding to integrate new functionality into the Joint Mission Planning Systems (JMPS) and Common Unique Planning Component (CUPC). FY 2006-2008 includes funding to development, integration, and qualification of a moving/relocatable target capability into the JSOW-C (AGM-154C) variant.

JSOW utilizes a "common truck" for both AGM-154A and AGM-154C variants. Through adherence to international standards for weapons interfaces and weight and dimension considerations. JSOW is compatible with Air Force and NATO aircraft.

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA5	PROGRAM ELEMENT NUMBER AND NAME 0604727N Joint Standoff Weapon System	PROJECT NUMBER AND NAME 2068 Joint Standoff Weapon (JSOW)		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		10.343	12.400	
RDT&E Articles Quantity				
Insert a Selective Availability Anti-Spoofing Module (SAASM) based Guidance Electronics Unit (GEU) into the weapon and demonstrate compatability with currently integrated aircraft.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.744	0.531	0.371	0.311
RDT&E Articles Quantity				
Perform baseline JMPS Migration; plan new functions into JSOW Common Unique Planning Component (CUPC) and develop new software releases of CUPC. The FY04 effort resulted in the initial release of CUPC Software version 1.1. The FY05-FY07 efforts will address compliance with new imagery architectures and new mission planning functionality.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			0.746	12.698
RDT&E Articles Quantity				
Develop and integrate the moving/relocatable target capability of AGM-154C. The FY 2006-2007 effort will involve updates to the seeker software weapon upgrade to enable receipt of revised target coordinates after missile launch and the integration of a weapon datalink.				

R-1 SHOPPING LIST - Item No.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604727N Joint Standoff Weapon System	PROJECT NUMBER AND NAME 2068 Joint Standoff Weapon (JSOW)		

C. PROGRAM CHANGE SUMMARY:

	FY 04	FY 05	FY 06	FY 07
Funding:				
Previous President's Budget:	0.766	9.531	13.271	12.811
Current BES/President's Budget:	0.744	10.874	13.517	13.009
Total Adjustments	-0.022	1.343	0.246	0.198
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.097		
Congressional rescissions				
SBIR/STTR Transfer	-0.021			
OSD		-0.260	0.121	0.033
Navy (FMB/Sponsor/NAVAIR)			0.125	0.165
Economic Assumptions				
Reprogrammings	-0.001			
Congressional increases		1.700		
Subtotal	-0.022	1.343	0.246	0.198

Schedule:

- 1) Removed the following efforts that completed: Missile Integration FY03, Missile Level Qual FY03, Development Test FY03, Operational Assessment FY03.
- 2) Full Rate Production AGM-154A reflects last procurement in 1Q FY05.
- 3) SAASM design/integration effort is to be completed in 2Q FY06, Development Test and Operational Test efforts are accelerated to FY06.
- 4) Moving/Relocateable Target engineering study/design/integration/qualification effort is added and begins in 1Q FY06 and ends 4Q FY08.

Technical:

Not Applicable

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:	
								February 2005	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME				
RDT&E, N / BA-5		0604727N Joint Standoff Weapon System			2068 Joint Standoff Weapon (JSOW)				

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
USN WP, N; BLI 223000 JSOW	117.346	142.853	144.449	139.632	150.240	160.636	164.905	169.400	1670.710	2860.171
Qtys*	328	405	420	400	453	496	494	502	4724	8222
USAF WP F; BLI 27324F JSOW	78.423									
Qtys	307									

E. ACQUISITION STRATEGY:

The contracting strategy for JSOW is planned to be sole source for the life of the program. Cost type contracts were used for the Engineering and Manufacturing Development program effort. Fixed price type contracts will be used for production.

*Does not include spares.

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604727N Joint Standoff Weapon System			2068 Joint Standoff Weapon (JSOW)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/CPIF	Raytheon Tucson, AZ	272.295								272.295	272.295
Primary Hardware Development	SS/CPIF	Raytheon Tucson, AZ	247.809								247.809	247.809
Ancillary Hardware Development	SS/CPIF	Textron	2.923								2.923	2.923
Ancillary Hardware Development	SS/FPFF	BAE Chorley, England	12.450								12.450	12.450
Aircraft Integration	SS/CPIF	Mtech/McDonnell Douglas	21.455								21.455	21.455
Aircraft Integration	WX	NAWCWD China Lake	15.058								15.058	
Systems Engineering	WX	NAWCWD China Lake	107.710	0.000		0.000		0.000		0.000	107.710	
Award Fees	Fee	Textron/Raytheon	7.198								7.198	
SAASM Integration	CPNF	Raytheon Tucson, AZ	0.000	10.243	11/04	4.350	11/05				14.593	14.593
Moving/Relocatable Target Development	CPFF	Raytheon Tucsc	0.000	0.000		0.746	11/05	12.548	12/06	6.010	19.304	19.304
											0.000	
Subtotal Product Development			686.898	10.243		5.096		12.548		6.010	720.795	
Remarks:												
Software Development (JMPS)	SS/CPFF	Raytheon Tucson, AZ	3.135	0.531	11/04	0.371	11/05	0.311	11/06	2.099	6.447	6.447
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Support			3.135	0.531		0.371		0.311		2.099	6.447	
Remarks:												

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 6 of 10)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE&E, N / BA-5			0604727N Joint Standoff Weapon System			2068 Joint Standoff Weapon (JSOW)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWCWD, China Lake	26.680			3.031	11/05				29.711	
Operational Test & Evaluation	WX	OPTEVFOR, Norfolk	7.662			4.869	11/05				12.531	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			34.342	0.000		7.900		0.000		0.000	42.242	
Contractor Engineering Support	Various	Various	18.136								18.136	
Travel	Various	Various	7.092	0.100	11/04	0.150	11/05	0.150	11/06		7.492	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Management			25.228	0.100		0.150		0.150		0.000	25.628	
Remarks:												
Total Cost			749.603	10.874		13.517		13.009		8.109	795.112	
Remarks:												

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 7 of 10)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																										DATE:						
February 2005																																
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME												
RDT&E, N / BA-5										0604727N Joint Standoff Weapon System										2068 Joint Standoff Weapon (JSOW)												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
JSOW																																
Acquisition Milestones AGM-154C					MS III ★ IOC																											
Test & Evaluation Milestones AGM-154C																																
Development Test	■																															
Operational Test	▲	OT/LFT&E																														
OTRR																																
Production Milestones																																
LRIP/FRP AGM-154C	▲				▲				△				△				△				△				△							
Deliveries/AGM-154C					▲																											
Deliveries/AGM-154A	▲				▲																											

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 8 of 10)

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E, N /BA-5	0604727N Joint Standoff Weapon System				2068 Joint Standoff Weapon (JSOW)			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Low Rate Initial Production (LRIP)/AGM-154C	1Q							
Operational Test Readiness Review (OTRR)/AGM-154C	1Q							
Operational Test/Live Fire Test and Evaluation (cont'd)								
(OT/LFT&E)/AGM-154C	1Q-4Q	1Q						
Milestone III (MS-III)/AGM-154C		1Q						
Initial Operational Capability (IOC)/AGM-154C		2Q						
Full Rate Production (FRP)/AGM-154C		1Q	1Q	1Q	1Q	1Q	1Q	1Q
Full Rate Production (FRP)/AGM-154A	1Q	1Q						
LRIP-1 Deliveries-AGM-154C	4Q	1Q-2Q						
LRIP-2 Deliveries-AGM-154C		2Q-4Q	1Q-2Q					
FRP-1 Deliveries-AGM-154C			2Q-4Q	1Q-2Q				
FRP-2 Deliveries-AGM-154C				2Q-4Q	1Q-2Q			
FRP-3 Deliveries-AGM-154C					2Q-4Q	1Q-2Q		
FRP-4 Deliveries-AGM-154C						2Q-4Q	1Q-2Q	
FRP-5 Deliveries-AGM-154C							2Q-4Q	1Q-2Q
FRP-6 Deliveries-AGM-154C								2Q-4Q
FRP-3 Deliveries-AGM-154A	1Q-2Q							
FRP-4 Deliveries-AGM-154A	2Q-4Q	1Q						
FY03 Supplemental-AGM-154A		1Q-4Q	1Q-2Q					
FRP-5 Deliveries-AGM-154A			2Q-4Q	1Q				
FRP-6 Deliveries-AGM-154A				2Q-4Q				
SAASM								
Design/Integration		2Q-4Q	1Q-2Q					
Development Test (DT)			1Q-3Q					
Operational Test (OT)			3Q-4Q					
Moving /Relocatable Target								
Engineering Study			1Q-4Q					
Design/Integration/Qual				1Q-4Q	1Q-4Q			

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 9 of 10)

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Termination Liability Funding
For Major Defense Acquisition Programs,
RDT&E Funding
(\$000)

Program	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
JSOW A2068	0	0	0	0	0	0	0	0

This program does not budget/fund termination liability separately. A Limitation of Funds (LoF) clause (FAR 52.232-22) is inserted in all incrementally funded R&D contracts. This clause is designed to limit the government's legal liability to the amount obligated.

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 10 of 10)

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification									DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5						R-1 ITEM NOMENCLATURE 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)				
COST (\$ in Millions)	FY2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total
Total PE Cost	51.774	66.059	45.931	7.136	6.308	5.495	0.780	0.227		183.710
0166 SPS (radars)	3.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000		3.008
0166 Shipboard Protection System (SPS)/ 0166 Underwater Intrusion Detection Sonar*	0.000	3.907	5.450	3.551	6.308	5.495	0.780	0.227		25.718
9394 Integrated Radar Optical Surveillance (IROS3)*	4.096	10.078	0.000	0.000	0.000	0.000	0.000	0.000		14.174
9587 Autonomous Unmanned Surface Vessel*	0.000	1.480	0.000	0.000	0.000	0.000	0.000	0.000		1.480
9588 Directed Energy User Scrutiny Equipment*	0.000	2.476	0.000	0.000	0.000	0.000	0.000	0.000		2.476
2178/QRCC	44.670	44.750	40.481	3.585	0.000	0.000	0.000	0.000		133.486
2178 QRCC/ 9589 IDEA	0.000	3.368	0.000	0.000	0.000	0.000	0.000	0.000		3.368
<div>*Project Unit 0166 Underwater Intrusion Detection Sonar is a FY05 Congressional Add for \$1.0M</div> <div>*Project Unit 9394 Integrated Radar Optical Sighting and Surveillance System (IROS3) is a FY04/05 Congressional Add.</div> <div>*Project Unit 9587Autonomous Unmanned Surface Vessel is a FY05 Congressional Add fpr \$1.5M</div> <div>*Project Unit 9588 Directed Energy User Scrutiny Equipment is a FY05 Congressional Add for \$2.5M</div> <div>*Project Unit 9589 Integrated Display and Enhanced Architecture is a FY05 Congressional Add for \$3.4M</div> <div>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</div> <div><p>This program element consolidates programmatic efforts related to Detect and Control aspects of Ship Self Defense (SSD) to facilitate effective planning and management of these efforts and to exploit the synergistic relationship inherent in each. Analysis and demonstration have established that surface SSD based on single-sensor detection point-to-point control architecture performs marginally against current and projected Anti-Ship Cruise Missile (ASCM) threats. The supersonic seaskimming ASCM reduces the effective battle space to the horizon and the available reaction time-line to less than 30 seconds from first opportunity to detect until the ASCM impacts its target ship. Against such a threat, multi-sensor integration is required for effective detection, and parallel processing is essential to reduce reaction time to acceptable levels and to provide vital coordination/integration of hardkill and softkill assets.</p><p>Shipboard Protection System (SPS) develops an integrated, shipboard, suite of systems designed to detect, identify, and engage asymmetric threats. Capabilities for Increment I include: Integrated Surface Surveillance System, and Non-lethal weapons/devices. The surface surveillance system integrates electro-optic/ infrared (EO/IR) sensors, radar, and stabilized guns into a common tactical surveillance system. Non-lethal weapons: NLW assist in determining intent and target discrimination. SPS is to be fielded in increments through evolutionary acquisition, as defined in DoD Instruction (DoDINST) 5000.2. The incremental approach facilitates the early delivery of economically practical and militarily useful integrated technologies. Future increments with enhanced capabilities will be developed as DoD/commercial research and development capabilities mature and resources permit. The SPS “End State System” will provide Navy vessels with the ability, in foreign and domestic ports, to protect themselves from attacks by asymmetric threats. This ability requires that information necessary to seamlessly execute the detect-to-engage sequence be collected, processed, communicated, and acted upon before threats reach their objectives.</p></div>										

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /BA-5	R-1 ITEM NOMENCLATURE 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)	
<p>These SSD projects address and coordinate the detect and control functions necessary to meet the rigorous SSD requirements within a development structure dedicated to systems engineering.</p> <p>DETECTION: Improvements in coordinated sensor performance to increase the probability of detecting low altitude, low observable targets is to be achieved through the synergism gained from the integration of dissimilar sensor sources. Multi-sensor integration is being addressed through the efforts of Quick Reaction Combat Capability (QRCC) (2178), while sensor improvements are addressed through the SPS Improvements (0166). These provide improvements to both active and passive detection.</p> <p>CONTROL: Multi-sensor integration, parallel processing and the coordination of hardkill/softkill capabilities in an automated response to the ASCM threat are the cornerstones of Ship Self Defense System (SSDS) being developed through QRCC (2178) efforts. In addition, that project provides for the central system engineering management of SSD developments, including efforts required to integrate SSDS with the Advanced Combat Direction System (CDS) for those ships having a CDS.</p>		

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)				PROJECT NUMBER AND NAME 0166 Shipboard Protection System (SPS)/Underwater Intrusion Detection Sonar/radars					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total
Project Cost	3.008	3.907	5.450	3.551	6.308	5.495	0.780	0.227		28.726
RDT&E Articles Qty										

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project provides funding for the SPS Improvement Program:

AN/SPQ-9B: This program develops and tests performance and reliability upgrades for search radar equipment to meet the evolving threat. The AN/SPQ-9 radar supports surface engagement capability to effectively detect and track sea-skimming, low radar cross-section, high-speed targets in heavy clutter environments. The radar interfaces with ship combat systems via either the MK-86 GFCS, Ship Self Defense System (SSDS), or Cooperative Engagement Capability (CEC) on CG47, CV/CVN, LHD, LPD 17 and DDG 51 class ships. The AN/SPQ-9B uses a high resolution, track-while-scan, X-Band, pulse Doppler radar to provide real time acquisition and automatic tracking of multiple targets. A lightweight antenna assembly has also been furnished as an engineering change. (FY2004 Funding)

Shipboard Protection System (SPS): develops an integrated, shipboard, suite of systems designed to detect, identify, and engage asymmetric threats. Capabilities for Increment I include: Integrated Surface Surveillance System, and Non-lethal weapons/devices. The surface surveillance system integrates EO/IR sensors, radar, and stabilized guns into a common tactical surveillance system. Non-lethal weapons: NLW assist in determining intent and target discrimination. SPS is to be fielded in increments through evolutionary acquisition, as defined in DoD Instruction (DoDINST) 5000.2. The incremental approach facilitates the early delivery of economically practical and militarily useful integrated technologies. Future increments with enhanced capabilities will be developed as DoD/commercial research and development capabilities mature and resources permit. The SPS "End State System" will provide Navy vessels with the ability, in foreign and domestic ports, to protect themselves from attacks by asymmetric threats. This ability requires that information necessary to seamlessly execute the detect-to-engage sequence be collected, processed, communicated, and acted upon before threats reach their objectives.

Underwater Intrusion Detection Sonar: Congressional Add: Explores Commercial Off The Shelf (COTS) products to provide detection/engagement of subsurface threats including swimmers and other underwater asymmetric threats.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA5	PROGRAM ELEMENT NUMBER AND NAME 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)	PROJECT NUMBER AND NAME 0166 Shipboard Protection System (SPS)/Underwater Intrusion Detection Sonar																		
B. Accomplishments/Planned Program																				
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;"></td> <td style="width: 10%; text-align: center;">FY 04</td> <td style="width: 10%; text-align: center;">FY 05</td> <td style="width: 10%; text-align: center;">FY 06</td> <td style="width: 10%; text-align: center;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">3.008</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>							FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	3.008	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07																
Accomplishments/Effort/Subtotal Cost	3.008	0.000	0.000	0.000																
RDT&E Articles Quantity																				
<div style="border: 1px solid black; padding: 5px; min-height: 40px;"> AN/SPQ-9B Integration into AEGIS Baseline 7 Phase 1/MK 160 Gun Computer System. Evaluation of commercial upgrade to SPS-73 radar. </div>																				
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;"></td> <td style="width: 10%; text-align: center;">FY 04</td> <td style="width: 10%; text-align: center;">FY 05</td> <td style="width: 10%; text-align: center;">FY 06</td> <td style="width: 10%; text-align: center;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.959</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>							FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.959	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07																
Accomplishments/Effort/Subtotal Cost	0.000	0.959	0.000	0.000																
RDT&E Articles Quantity																				
<div style="border: 1px solid black; padding: 5px; min-height: 40px;"> Underwater Intrusion Detection Sonar (Congressional Add) FY05: Explores Commercial Off The Shelf (COTS) products to provide detection/engagement of subsurface threats including swimmers and other asymmetric threats. </div>																				
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;"></td> <td style="width: 10%; text-align: center;">FY 04</td> <td style="width: 10%; text-align: center;">FY 05</td> <td style="width: 10%; text-align: center;">FY 06</td> <td style="width: 10%; text-align: center;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">2.948</td> <td style="text-align: center;">4.450</td> <td style="text-align: center;">2.051</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>							FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	2.948	4.450	2.051	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07																
Accomplishments/Effort/Subtotal Cost	0.000	2.948	4.450	2.051																
RDT&E Articles Quantity																				
<div style="border: 1px solid black; padding: 5px; min-height: 40px;"> Shipboard Protection System - Increment I System design, development, integrate, analyse and test the SPS system. </div>																				
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;"></td> <td style="width: 10%; text-align: center;">FY 04</td> <td style="width: 10%; text-align: center;">FY 05</td> <td style="width: 10%; text-align: center;">FY 06</td> <td style="width: 10%; text-align: center;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">1.000</td> <td style="text-align: center;">1.500</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>							FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	1.000	1.500	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07																
Accomplishments/Effort/Subtotal Cost	0.000	0.000	1.000	1.500																
RDT&E Articles Quantity																				
<div style="border: 1px solid black; padding: 5px; min-height: 40px;"> Swimmer Detection System - Increment II System integration, test and analysis. </div>																				
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">TOTAL</td> <td style="width: 10%; text-align: center;">3.008</td> <td style="width: 10%; text-align: center;">3.907</td> <td style="width: 10%; text-align: center;">5.450</td> <td style="width: 10%; text-align: center;">3.551</td> </tr> </table>						TOTAL	3.008	3.907	5.450	3.551										
TOTAL	3.008	3.907	5.450	3.551																

R-1 SHOPPING LIST - Item No. 126

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)	PROJECT NUMBER AND NAME 0166 Shipboard Protection System (SPS)/Underwater Intrusion Detection Sonar

C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
Funding:				
FY05 President's Budget	1.875	2.955	1.953	0.000
FY06 President's Budget	3.008	3.907	5.450	3.551
Total Adjustments	1.133	0.952	3.497	3.551
Summary of Adjustments				
Misc. Adjustments	-0.049	-0.007		
BTR	1.186			
Congressional Adjustments	-0.004	0.959		
Programmatic Adjustments			3.497	3.551
Subtotal	1.133	0.952	3.497	3.551

Schedule:

Not Applicable

Technical:

Not Applicable

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UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA5			PROGRAM ELEMENT NUMBER AND NAME 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)			PROJECT NUMBER AND NAME 0166 Shipboard Protection System (SPS)/Underwater Intrusion Detection Sonar			

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
OPN LINE 202600 (AN/SPQ-9B)	19.210	11.513	5.913	2.564	14.605	15.453	15.734	16.082	CONT.	CONT.
OPN LINE 812800 (Physical Security Equipment)	3.017	17.517	59.558	60.151	86.215	47.605	74.683	96.190	CONT.	CONT.

E. ACQUISITION STRATEGY:

AN/SPQ-9B Radar is a directed sole source contract to Northrop Grumman Norden Systems for LRIP, and upon successful completion of TECHEVAL/OPEVAL, entering into Full Rate Production. Lockheed Martin will develop AN/SPQ 9B integration into AEGIS Baseline 7 Phase 1/MK 160 Gun Computer System.

Shipboard Protection System (SPS) develops an integrated, shipboard, suite of systems designed to detect, identify, and engage asymmetric threats. Capabilities for Increment I include: Integrated Surface Surveillance System, and Non-lethal weapons/devices. The surface surveillance system integrates EO/IR sensors, radar, and stabilized guns into a common tactical surveillance system. Non-lethal weapons: NLW assist in determining intent and target discrimination. SPS is to be fielded in increments through evolutionary acquisition, as defined in DoD Instruction (DoDINST) 5000.2. The incremental approach facilitates the early delivery of economically practical and militarily useful integrated technologies. Future increments with enhanced capabilities will be developed as DoD/commercial research and development capabilities mature and resources permit. The SPS "End State System" will provide Navy vessels with the ability, in foreign and domestic ports, to protect themselves from attacks by asymmetric threats. This ability requires that information necessary to seamlessly execute the detect-to-engage sequence be collected, processed, communicated, and acted upon before threats reach their objectives.

F. MAJOR PERFORMERS:

NORTHROP GRUMMAN CORP.
NORDEN SYSTEMS
MELVILLE, N.Y. 11747
PRIME CONTRACTOR

LOCKHEED MARTIN CORP
NE&SS-SURFACE SYSTEMS
MOORESTOWN, N.J.
SPQ-9B/AEGIS INTEGRATION

R-1 SHOPPING LIST - Item No. 126

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)											DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)					PROJECT NUMBER AND NAME 0166 Shipboard Protection System (SPS)/Underwater Intrusion Detection Sonar						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware/Software Development	WX	NSWC Crane				0.200	01/05	0.500	11/05	0.250	11/06	Continuing	Continuing	TBD
Hardware/Software Development	WX	NSWC Dahlgren				0.959	02/05	0.400	11/05	0.326	11/06	Continuing	Continuing	TBD
Hardware/Software Development	FFP	Unknown				1.300	04/05	0.750	11/05	0.750	11/06	Continuing	Continuing	TBD
Hardware/Software Development														
Subtotal Product Development			0.000	0.000		2.459		1.650		1.326		0.000	0.000	TBD
Remarks:														
Engineering Services	WX	NSWC Crane				0.200	11/04	0.525	11/05	0.400	11/06	Continuing	Continuing	TBD
Engineering Services	WX	NSWC Dahlgren				0.258	01/05	0.750	11/05	0.550	11/06	Continuing	Continuing	TBD
Engineering Services	FFP	Unknown				0.500	04/05	0.750	11/05	0.500	11/06	Continuing	Continuing	TBD
Engineering Services														
ILS Functions	WX	NSWC Dahlgren				0.200	02/05	0.200	11/05	0.200	11/04	Continuing	Continuing	TBD
ILS Functions														
ILS Functions														
Subtotal Support			0.000	0.000		1.158		2.225		1.650		0.000	0.000	TBD
Remarks:														

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)												DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-5			PROGRAM ELEMENT 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)					PROJECT NUMBER AND NAME 0166 Shipboard Protection System (SPS)/Underwater Intrusion Detection Sonar						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
T&E Functions	WX	COMOPTEVFOR						0.750	11/05			Continuing	Continuing	TBD
T&E Functions	WX	NWSC Dahlgren						0.250	11/05			Continuing	Continuing	TBD
T&E Functions														
Subtotal T&E			0.000	0.000		0.000		1.000		0.000		0.000	0.000	
Remarks:														
Management Support	Various	Various				0.240	11/05	0.500	11/06	0.500	11/07	Continuing	Continuing	TBD
Travel						0.050	11/05	0.075	11/05	0.075	11/05	Continuing	Continuing	TBD
Subtotal Management			0.000	0.000		0.290		0.575		0.575		0.000	0.000	TBD
Remarks:														
Total Cost			0.000	0.000		3.907		5.450		3.551		0.000	12.908	
Remarks:														

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																		DATE: February 2005										
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME													
RDT&E, N / BA-5					0604755N SHIP SELF DEFENSE (DETECT & CONTROL)										0166 Shipboard Protection System(SPS)/Underwater Intrusion Detection Sonar													
Fiscal Year	2004				2005				2006				2007				2008				2009				2010			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones						MS B					MS C/FRP																	
Increment I (Surface Surveillance)						△					△	★	IOC															
Increment II (Surface/Sub-Surface Surveillance Detection)													MS B	△			MS C/FRP	△	★	IOC								
Increment III (Surface/Sub-Surface Surveillance Engagement/USV)																								MS B	△		MS C/FRP	
Program Phases																												
Increment I																												
Increment II																												
Increment III																												
Test & Evaluation Milestones																												
Development Test																												
Operational Test																												
Production Milestones																												
FY05																												
FY06																												
FY07																												
Deliveries																												

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 9 of 31)

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CLASSIFICATION:

[illegible]

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 10 of 31)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)				PROJECT NUMBER AND NAME 9394 Integrated Radar Optical Sighting and Surveillance System (IROS3)					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total
Project Cost	4.096	10.078	0.000	0.000	0.000	0.000	0.000	0.000		14.174
RDT&E Articles Qty										
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>IROS3: Congressional Add: Integrated Radar Optical Sighting and Surveillance System (IROS3) development. IROS3 (concept demonstrator) integrates EO/IR sensors, radar, and stabilized guns into a common tactical situational awareness system. This funding will develop an enhanced detection, tracking and engagement of surface targets.</p>										

R-1 SHOPPING LIST - Item No. 126

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005																																									
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA5	PROGRAM ELEMENT NUMBER AND NAME 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)	PROJECT NUMBER AND NAME 9394 Integrated Radar Optical Sighting and Surveillance System (IROS3)																																									
B. Accomplishments/Planned Program <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <th style="width: 40%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">4.096</td> <td style="text-align: center;">10.078</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> Congressional Add FY04/05: Integrated Radar Optical Sighting and Surveillance System (IROS3) development. IROS3 integrates EO/IR sensors, radar, and stabilized guns into a common tactical situational awareness system. </div>					FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	4.096	10.078	0.000	0.000	RDT&E Articles Quantity																													
	FY 04	FY 05	FY 06	FY 07																																							
Accomplishments/Effort/Subtotal Cost	4.096	10.078	0.000	0.000																																							
RDT&E Articles Quantity																																											
C. PROGRAM CHANGE SUMMARY: <table style="width: 100%; margin-top: 10px;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 2004</th> <th style="width: 15%;">FY 2005</th> <th style="width: 15%;">FY 2006</th> <th style="width: 15%;">FY 2007</th> </tr> <tr> <td>Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY05 President's Budget</td> <td style="text-align: center;">4.200</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>FY06 President's Budget</td> <td style="text-align: center;">4.096</td> <td style="text-align: center;">10.078</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: center; border-top: 1px solid black;">-0.104</td> <td style="text-align: center; border-top: 1px solid black;">10.078</td> <td style="text-align: center; border-top: 1px solid black;">0.000</td> <td style="text-align: center; border-top: 1px solid black;">0.000</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional Adjustments</td> <td style="text-align: center;">-0.104</td> <td style="text-align: center;">10.078</td> <td></td> <td></td> </tr> <tr> <td> Subtotal</td> <td style="text-align: center; border-top: 1px solid black; border-bottom: 1px solid black;">-0.104</td> <td style="text-align: center; border-top: 1px solid black; border-bottom: 1px solid black;">10.078</td> <td style="text-align: center; border-top: 1px solid black; border-bottom: 1px solid black;">0.000</td> <td style="text-align: center; border-top: 1px solid black; border-bottom: 1px solid black;">0.000</td> </tr> </table> <p style="margin-top: 10px;">Schedule: Not Applicable Technical: Not Applicable</p>					FY 2004	FY 2005	FY 2006	FY 2007	Funding:					FY05 President's Budget	4.200	0.000	0.000	0.000	FY06 President's Budget	4.096	10.078	0.000	0.000	Total Adjustments	-0.104	10.078	0.000	0.000	Summary of Adjustments					Congressional Adjustments	-0.104	10.078			Subtotal	-0.104	10.078	0.000	0.000
	FY 2004	FY 2005	FY 2006	FY 2007																																							
Funding:																																											
FY05 President's Budget	4.200	0.000	0.000	0.000																																							
FY06 President's Budget	4.096	10.078	0.000	0.000																																							
Total Adjustments	-0.104	10.078	0.000	0.000																																							
Summary of Adjustments																																											
Congressional Adjustments	-0.104	10.078																																									
Subtotal	-0.104	10.078	0.000	0.000																																							
D. OTHER PROGRAM FUNDING SUMMARY: <p style="margin-top: 10px;">Not Applicable</p>																																											
E. ACQUISITION STRATEGY: <p style="margin-top: 10px;">Not Applicable</p>																																											
F. MAJOR PERFORMERS: <p style="margin-top: 10px;">Not Applicable</p>																																											

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UNCLASSIFIED

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)											DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)					PROJECT NUMBER AND NAME 9394 Integrated Radar Optical Sighting and Surveillance System (IROS3)							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Hardware/Software Development	WX	NSWC Crane		2.047	11/03	1.900	03/05						3.947	TBD	
Hardware/Software Development	WX	NSWC Dahlgren				0.678	03/05						0.678	TBD	
Hardware/Software Development	FFP	Unknown				2.100	04/05						2.100	TBD	
Hardware/Software Development															
Subtotal Product Development			0.000	2.047		4.678		0.000		0.000		0.000	6.725	TBD	
Remarks: FY04 Congressional Add for IROS3 FY05 Congressional Add for IROS3															
Engineering Services	WX	NSWC Crane		2.049	11/03	2.500	03/05						4.549	TBD	
Engineering Services	WX	NSWC Dahlgren				0.900	03/05						0.900	TBD	
Engineering Services	FFP	Unknown				2.000	04/05						2.000	TBD	
Engineering Services															
ILS Functions															
ILS Functions															
ILS Functions															
Subtotal Support			0.000	2.049		5.400		0.000		0.000		0.000	7.449	TBD	
Remarks: FY04 Congressional Add for IROS3 \$4.096M FY05 Congressional Add for IROS3 \$10.078M															

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)											DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)					PROJECT NUMBER AND NAME 9394 Integrated Radar Optical Sighting and Surveillance System (IROS3)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
T&E Functions														
T&E Functions														
T&E Functions														
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
Management Support														
Travel														
Subtotal Management			0.000	0.000		0.000		0.000		0.000		0.000	0.000	TBD
Remarks:														
Total Cost			0.000	4.096		10.078		0.000		0.000		0.000	10.078	
Remarks:														

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)				PROJECT NUMBER AND NAME 9587 Autonomous Unmanned Surface Vessel (AUSV)					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total
Project Cost	0.000	1.480	0.000	0.000	0.000	0.000	0.000	0.000		1.480
RDT&E Articles Qty										
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>Autonomous Unmanned Surface Vessel (AUSV): Congressional Add: Develop/analyze concept demonstrator to support Anti-Terrorism Force Protection (ATFP) missions: protect harbors, coastal facilities (airports, nuclear power plants, inland waterways).</p>										

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA5	PROGRAM ELEMENT NUMBER AND NAME 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)	PROJECT NUMBER AND NAME 9587 Autonomous Unmanned Surface Vessel (AUSV)	

B. Accomplishments/Planned Program

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	1.480	0.000	0.000
RDT&E Articles Quantity				

Congressional Add: Develop/analyze concept demonstrator to support AFTP missions: protect harbors, coastal facilities (airports, nuclear power plants, inland waterways).

C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
Funding:				
FY05 President's Budget	0.000	0.000	0.000	0.000
FY06 President's Budget	0.000	1.480	0.000	0.000
Total Adjustments	0.000	1.480	0.000	0.000
 Congressional Adjustments		1.480		
Subtotal	0.000	1.480	0.000	0.000

Schedule: Not Applicable
Technical: Not Applicable

D. OTHER PROGRAM FUNDING SUMMARY:

Not Applicable

E. ACQUISITION STRATEGY:

Not Applicable

F. MAJOR PERFORMERS:

Not Applicable

R-1 SHOPPING LIST - Item No. 126

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)											DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)					PROJECT NUMBER AND NAME 9587 Autonomous Unmanned Surface Vessel (AUSV)							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Hardware/Software Development	WX	NSWC Crane													
Hardware/Software Development	WX	NSWC Dahlgren				0.200	02/05					Continuing	Continuing	TBD	
Hardware/Software Development	FFP	Unknown				0.750	02/05					Continuing	Continuing	TBD	
Hardware/Software Development															
Subtotal Product Development			0.000	0.000		0.950		0.000		0.000		0.000	0.000	TBD	
Remarks:															
Engineering Services	WX	NSWC Crane													
Engineering Services	WX	NSWC Dahlgren				0.200	02/05					Continuing	Continuing	TBD	
Engineering Services	FFP	Unknown				0.330	02/05					Continuing	Continuing	TBD	
Engineering Services															
ILS Functions															
ILS Functions															
ILS Functions															
Subtotal Support			0.000	0.000		0.530		0.000		0.000		0.000	0.000	TBD	
Remarks:															

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)											DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)					PROJECT NUMBER AND NAME 9587 Autonomous Unmanned Surface Vessel (AUSV)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
T&E Functions														
T&E Functions														
T&E Functions														
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
Management Support														
Travel														
Subtotal Management			0.000	0.000		0.000		0.000		0.000		0.000	0.000	TBD
Remarks:														
Total Cost			0.000	0.000		1.480		0.000		0.000		0.000	1.480	
Remarks:														

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)			PROJECT NUMBER AND NAME 9588 Directed Energy User Scrutiny Equipment					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total
Project Cost	0.000	2.476	0.000	0.000	0.000	0.000	0.000	0.000		2.476
RDT&E Articles Qty										
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>Directed Energy User Scrutiny Equipment: Congressional Add: Design and prototype the current non-lethal, millimeter wave transmitter technology of the Active Denial System (ADS) in an environmentally-controlled portable module. This includes developing system engineering enhancements based on lessons learned, engineering and integrating the ADS into the Navy's Ship Self Protection System (SSPS), which is currently the Integrated Remote Optical Sensor Surveillance System. Provide the initial capability to the user community for optimizing operational concepts and obtaining user feedback/requirements, and accomplish the engineering to ensure that the system is producible and sustainable under a marine environment. This effort will leverage the Energy Beam generation and pointing technology developed under the Air Force Research Laboratory (AFRL) funded ADS FY 02 Advanced Concept Technology Demonstration (ACTD) and will include efforts required to operate in the marine environment under the Navy's SSPS.</p>										

R-1 SHOPPING LIST - Item No. 126

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA5	PROGRAM ELEMENT NUMBER AND NAME 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)	PROJECT NUMBER AND NAME 9588 Directed Energy User Scrutiny Equipment		

B. Accomplishments/Planned Program

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	2.476	0.000	0.000
RDT&E Articles Quantity				

Congressional Add: Design and prototype the current non-lethal, millimeter wave transmitter technology of the Active Denial System (ADS) in an environmentally-controlled portable module.

C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
Funding:				
FY05 President's Budget	0.000	0.000	0.000	0.000
FY06 President's Budget	0.000	2.476	0.000	0.000
Total Adjustments	0.000	2.476	0.000	0.000
Summary of Adjustments				
Congressional Adjustments		2.476		
Subtotal	0.000	2.476	0.000	0.000

Schedule: Not Applicable
Technical: Not Applicable

D. OTHER PROGRAM FUNDING SUMMARY:

Not Applicable

E. ACQUISITION STRATEGY:

Not Applicable

F. MAJOR PERFORMERS:

Not Applicable

R-1 SHOPPING LIST - Item No. 126

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)											DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT					PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604755N SHIP SELF DEFENSE (DETECT & CONTROL)					9588 Directed Energy User Scrutiny Equipment						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware/Software Development	WX	NSWC Crane				0.250	02/05						0.250	TBD
Hardware/Software Development	FFP	Raytheon				1.250	02/05						1.250	TBD
Hardware/Software Development														
Hardware/Software Development														
Subtotal Product Development			0.000	0.000		1.500		0.000		0.000		0.000	1.500	TBD
Remarks:														
Engineering Services	WX	NSWC Crane				0.226	02/05						0.226	TBD
Engineering Services	FF	Raytheon				0.750	02/05						0.750	TBD
Engineering Services														
Engineering Services														
ILS Functions														
ILS Functions														
ILS Functions														
Subtotal Support			0.000	0.000		0.976		0.000		0.000		0.000	0.976	TBD
Remarks:														

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)											DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-5			PROGRAM ELEMENT 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)					PROJECT NUMBER AND NAME 9588 Directed Energy User Scrutiny Equipment						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
T&E Functions														
T&E Functions														
T&E Functions														
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
Management Support														
Travel														
Subtotal Management			0.000	0.000		0.000		0.000		0.000		0.000	0.000	TBD
Remarks:														
Total Cost			0.000	0.000		2.476		0.000		0.000		0.000	2.476	
Remarks:														

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)			PROJECT NUMBER AND NAME 2178/Quick Reaction Combat Capability / 9589 Integrated Display Enhanced Architecture			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
2178/QRCC	44.670	44.750	40.481	3.585	0.000	0.000	0.000	0.000
2178 QRCC/ 9589 IDEA	0.000	3.368	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
<p>The Quick Reaction Combat Capability (QRCC) project implements an evolutionary acquisition of improved ship self defense capabilities against Anti-Ship Cruise Missiles (ASCMs) for selected ships. The Ship Self Defense System (SSDS) is the integrating element of QRCC. The design integrates several existing stand-alone Anti-Air Warfare (AAW) systems that do not individually provide the complete detection, control, and engagement capabilities needed against low flying, high speed ASCMs with low radar cross sections. The SSDS integration concept fulfills the need for an automated detection, quick reaction and multi-target engagement capability emphasizing performance in the littoral environment. SSDS replaces manual control of several self-defense systems with a single integrated capability under the computer-aided control of ship operators. System design emphasizes use of non-developmental items, commercial standards, Next Generation Computer Resources, computer program reuse and open system architecture. SSDS is a physically distributed, open system architecture computer network consisting of commercially available or previously developed hardware. It includes a command table that uses components of the Navy's AN/UYQ-70 standard display for human-machine interface, commercially available local area network access units and circuit cards, and commercially available fiberoptic cabling.</p> <p>SSDS MK1 integrates the SPS-49A(V)1 radar, SPS-67(V)1 radar, AN/SLQ-32A electronic countermeasures system, Combat Identification, Friend or Foe-Self Defense (ClFF-SD), Rolling Airframe Missile and Phalanx Close-In Weapon System and is installed on LSD41/49 class ships. SSDS MK1 successfully completed Operational Evaluation in June 1997. SSDS received Milestone III Approval for Full Rate Production (Mar 98) and authority to integrate with ACDS and Cooperative Engagement Capability (CEC) on CV(N), LPD-17, LHD and LHA ship classes.</p> <p>SSDS MK2 facilitates the incremental evolution and implementation of follow-on modifications. Development of SSDS MK2 consists of leveraging critical experiments and re-use of technology and software from SSDS MK1. SSDS MK2 is in development and will integrate other ship self defense elements, such as the AN/SPQ-9B radar, and NATO Sea-sparrow missile system with the CEC, and Tactical Data Links, to improve joint interoperability. SSDS MK2 provides enhanced capabilities for Force Protection against air, and surface threats using both ownship and remote data in support of the AAW Capstone Requirements. SSDS MK2 becomes the integrated, coherent real time Command and Control System for Aircraft Carriers and Amphibious ships. It will increase operational capabilities; improve combat readiness and Battle Group Interoperability; and promote standardization. It will also introduce new shipboard tactical displays and support equipment. The Navy, by direction of DOT&E, required LPD 17 Live Fire testing to be conducted on the Self Defense Test Ship (R). SSDS MK 2 self defense combat system will be tested against Anti Ship Cruise Missile threats in FY06-07 to support this effort.</p> <p>In order to meet the Navy's warfighting capabilities and modernization concepts described in SEA POWER 21, Navy Open Architecture (NOA) is being introduced. This is the first step in unifying a set of warfighting functions into a single architecture shared among many ship classes. This principle of commonality is a major mechanism for cost control and avoidances in the Navy's future warfighting systems. The Ship Self Defense System (SSDS) MK 2 would rehost existing tactical computer program applications to the Open Architecture Computing Environment (OACE) specifications/ equipment suite prior to full migration and integration with other OA applications for implementation on future classes of ships.</p> <p>The Integrated Display & Enhanced Architecture (IDEA) approach will be utilized for the development of a software-based capability to share displays across Naval subsystems. This capability would allow specific displays within SSDS/ACDS and selected displays of external systems to be displayed at designated locations, and to be interchanged among designated operator stations. Based on Open System architecture standards for networked systems, the IDEA software permits an operator to immediately reconfigure his workstation and assume the responsibilities of any other operator, minimizing the number of workstations. Proof of concept will be demonstrated with LHA 2/4 upgraded COTS display systems. The software architecture will conform to Navy Open Architecture guidelines.</p>								

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604755N SHIP SELF DEFENSE (DETECT & CONTROL)	PROJECT NUMBER AND NAME 2178 Quick Reaction Combat Capability / 9589 Integrated Display Enhanced Architecture

B. Accomplishments/Planned Program

	FY 04	FY 05	FY 06	FY07
Accomplishments/Effort/Subtotal Cost	22.155	26.590	0.000	0.000
RDT&E Articles Quantity				

Develop and deliver the computer program products for each of the SSDS MK 2 ship class variants (Mod 1 for Carriers and Mod 2 for LPDs). Conduct reviews of computer program systems engineering products to assess the computer program development and integration progress. Code each new or modified unit as specified in the detailed design, revise and compile the code until it compiles without errors. Conduct a unit test for all new and modified software units, identify and document test cases describing their purpose, the functions being tested, the test environment, and the test results. Evaluate the test results and correct the code and retest, if necessary. Conduct a Formal Qualifications Test (FQT) before delivery to test certification facilities and continue to support testing efforts through computer program corrections and retest.

	FY 04	FY 05	FY 06	FY07
Accomplishments/Effort/Subtotal Cost	2.087	0.000	0.000	0.000
RDT&E Articles Quantity				

Conduct systems requirements analysis, and identify necessary functionality changes to adapt to the LHD class in-service ships.

	FY 04	FY 05	FY 06	FY07
Accomplishments/Effort/Subtotal Cost	11.140	15.160	25.068	3.585
RDT&E Articles Quantity				

Conduct comprehensive combat system tests on SSDS MK 2 MOD 1 (CVN 76) at Wallops Island, including development tests, data collection, data extraction, data analysis and identifying computer program corrections. Conduct at-sea DT/OT and FOT&E events onboard USS Reagan in FY04 and FY05. Complete all test preparations and documentation for LPD 17 configuration testing efforts planned in FY05. Conduct land based and at-sea DT events for SSDS MK2 Mod 2 (LPD 17) in FY04 / FY05 / FY06, and conduct live fire testing on board the Self Defense Test Ship (R) in FY06 & FY07. Design Agent test, analyze, and fix for the computer software program in support of testing will be done as required to successfully complete MK 2 development.

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604755N SHIP SELF DEFENSE (DETECT & CONTROL	PROJECT NUMBER AND NAME 2178 Quick Reaction Combat Capability / 9589 Integrated Display Enhanced Architecture

B. Accomplishments/Planned Program

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	9.288	3.000	15.413	0.000
RDT&E Articles Quantity				

Migration of SSDS MK 2 to OA Category 3 Computing Environment (OACE) and conduct a FQT before delivery to combat system facilities for System Integration Test (SIT), IV&V and certification testing.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000		0.000	0.000
RDT&E Articles Quantity				

Congressional Plus-up for Integrated Enhanced Display Architecture for SSDS/ACDS to be utilized for the development of a software-based capability to share displays across Naval subsystems.

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 25 of 31)

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N / BA-5	0604755N SHIP SELF DEFENSE (DETECT & CONTROL)	XLFN5 HFWRC&P EDWDSDELOW QMJUDMG LVSDA (QKQFHGS UPKUMFWUH		
C. PROGRAM CHANGE SUMMARY:				
Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY05 President's Budget	36.162	45.199	10.591	0.000
FY06 President's Budget	44.670	44.750	40.481	3.585
Total Adjustments	8.508	-0.449	29.890	3.585
Summary of Adjustments				
Programmatic/Other Adjustments	8.508	-0.449	29.890	3.585
Subtotal	8.508	-0.449	29.890	3.585
Schedule:				
PB05 FY05/FY06 controls support FOT&E test events.				
Increase in FY04 is for SSDS OACE Migration Program Adjustments.				
Increase in FY05 is for Congressional Plus for Integrated Display Enhanced Architecture for SSDS				
Increase in FY06 is for SSDS LPD-17 Self Defense Test Ship Testing, and continued OACE development, integration test.				
Technical:				

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EXHIBIT R-2a, RDT&E Project Justification							DATE:			
							February 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME				
RDT&E, N / BA-5			0604755N SHIP SELF DEFENSE (DETECT & CONTROL)			XFN5 HDMC & RP EDWSDC/OW QMJUDMG LSDA (C KDCFGS FKLWFMUH				
D. OTHER PROGRAM FUNDING SUMMARY:										
Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
Ship Self Defense System OPN / 523900 , 523905 , 523906	57.258	41.872	33.428	57.287	48.003	72.043	55.317	81.074	.	684.053
SCN 2086 CV(N) / CVN 70	50.275	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	50.275
SCN 3036 LPD ship class	40.410	0.000	0.000	20.205	20.205	0.000	0.000	0.000	40.410	121.230
Related RDT&E:										
PE 0603382N / 0324 (Advanced Combat System Technology) Navy Enterprise OACE effort supported	12.659	66.951	30.16	30.753	31.923	32.631	33.396	34.047	CONT.	272.52
PE 0603658N / 2039 (Cooperative Engagement Capability CEC)	86.996	102.15	88.135	59.881	56.724	56.968	58.274	55.597	CONT.	564.725
PE 0604307N / 1447 (Aegis Surf Combatant Combat Sys Imp)	199.232	143.889	203.837	182.518	132.704	87.671	98.928	90.72	CONT.	1139.499
E. ACQUISITION STRATEGY:										
LSD class procurements and installations are complete. These systems were procured under a Firm Fix Price (FFP) Contract. The FY00 requirements also include CVN 68 and 1 shore based trainer. The first SSDS MK 2 system procurements took place under a Cost Plus Award Fee contract in FY99 for the CVN 76, LPD 17, LPD 18 and CVN 69. Follow-on procurements for additional ships of the CV(N), LPD and LHD classes will be made using FFP contracts with the exception of those ships that would be receiving initial COTS tech Refresh hardware suites; then a CPAF type contract is necessary. A new development contract is planned in FY 05 to support future SSDS MK 2 system/software upgrades.										
F. MAJOR PERFORMERS:										

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005						
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-5			0604755N SHIP SELF DEFENSE (DETECT & CONTROL)			XFN5 HFWQ3 RP EDNDSCELOW QM/UDMG IVSDA (QDCFHCS UKUMFMIH								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	NAVSEA/DD-Dahlgren, VA	22.867	4.008	10/03	2.224	10/04	0.500	10/05	0.000	10/06	0.000	29.599	N/A
Systems Engineering	SS/FP	JHU/APL-Laurel, MD	32.545	0.299	11/03	2.779	11/04	0.500	11/05	0.000	11/06	0.000	36.123	N/A
Systems Engineering	WR	NAVSEA/PHD-Pt Hueneme,CA	14.033	0.718	10/03	0.300	10/04	0.500	10/05	0.000	10/06	0.000	15.551	N/A
Systems Engineering	WR	NAVSEA/Dam Neck-Dam Neck,	3.880	1.729	10/03	0.954	10/04	0.330	10/05	0.000	10/06	0.000	6.893	N/A
Systems Engineering	WR	NAVSEA/IH-Indian Head, MD	0.000	0.000	N/A	3.368	N/A	0.000	N/A	0.000	N/A	0.000	3.368	N/A
Systems Engineering	SS/FP	Lockheed Martin St. Paul, MN	0.400	2.808	05/04	0.000	01/00	0.400	10/05	0.000	10/06	0.000	3.608	N/A
Systems Engineering/Dev/Integrate	SS/CPAF	RSC(5108)-San Diego, CA	93.319	0.667	10/03	4.144	N/A	0.000	N/A	0.000	N/A	0.000	98.130	TBD
Systems Engineering/Dev/Integrate	SS/CPAF	RSC(5466)- San Diego, CA	20.353	0.000	N/A	0.000	N/A	0.000	N/A	0.000	N/A	0.000	20.353	TBD
Systems Engineering/Dev/Integrate	SS/CPFF	RSC(5104)-San Diego, CA	7.216	16.469	10/03	16.722	10/04	0.000	10/05	0.000	10/06	0.000	40.407	TBD
Systems Engineering/Dev/Integrate	SS/CPAF	RSC (5132 Note (1))-San Diego,	8.562	6.389	05/04	0.000	10/04	12.233	10/05	0.000	10/06	0.000	27.184	TBD
Award Fees	SS/CPAF	RSC (5132 Note (1))-San Diego,	0.000	0.000	N/A	2.375	10/04	0.000	10/05	0.000	10/06	0.000	2.375	TBD
Award Fees	SS/CPAF	RSC(5108)-San Diego, CA	9.411	0.315	N/A	1.626	N/A	0.000	N/A	0.000	N/A	0.000	11.352	TBD
Award Fees	SS/CPAF	RSC(5466)- San Diego, CA	2.163	0.000	N/A	0.000	N/A	0.000	N/A	0.000	N/A	0.000	2.163	TBD
Risk Reduction / EMD	Various	Various	76.366	0.000	N/A	0.000	N/A	0.000	N/A	0.000	N/A	0.000	76.366	N/A
Misc.	Various	Various	0.319	0.225	N/A	2.750	N/A	0.000	N/A	0.000	N/A	0.000	3.294	N/A
Subtotal Product Development			291.434	33.627		37.242		14.463		0.000		0.000	376.766	N/A
Remarks: Note (1) New contract to perform Open Archectiture system modifications being negotiated.														
QA/RMA	WR	NWAS Corona	8.640	0.310	N/A	0.360	N/A	0.150	N/A	0.000	N/A	0.000	9.460	
Subtotal Support			8.640	0.310	N/A	0.360	N/A	0.150	N/A	0.000	N/A	0.000	9.460	
Remarks:														

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 28 of 31)

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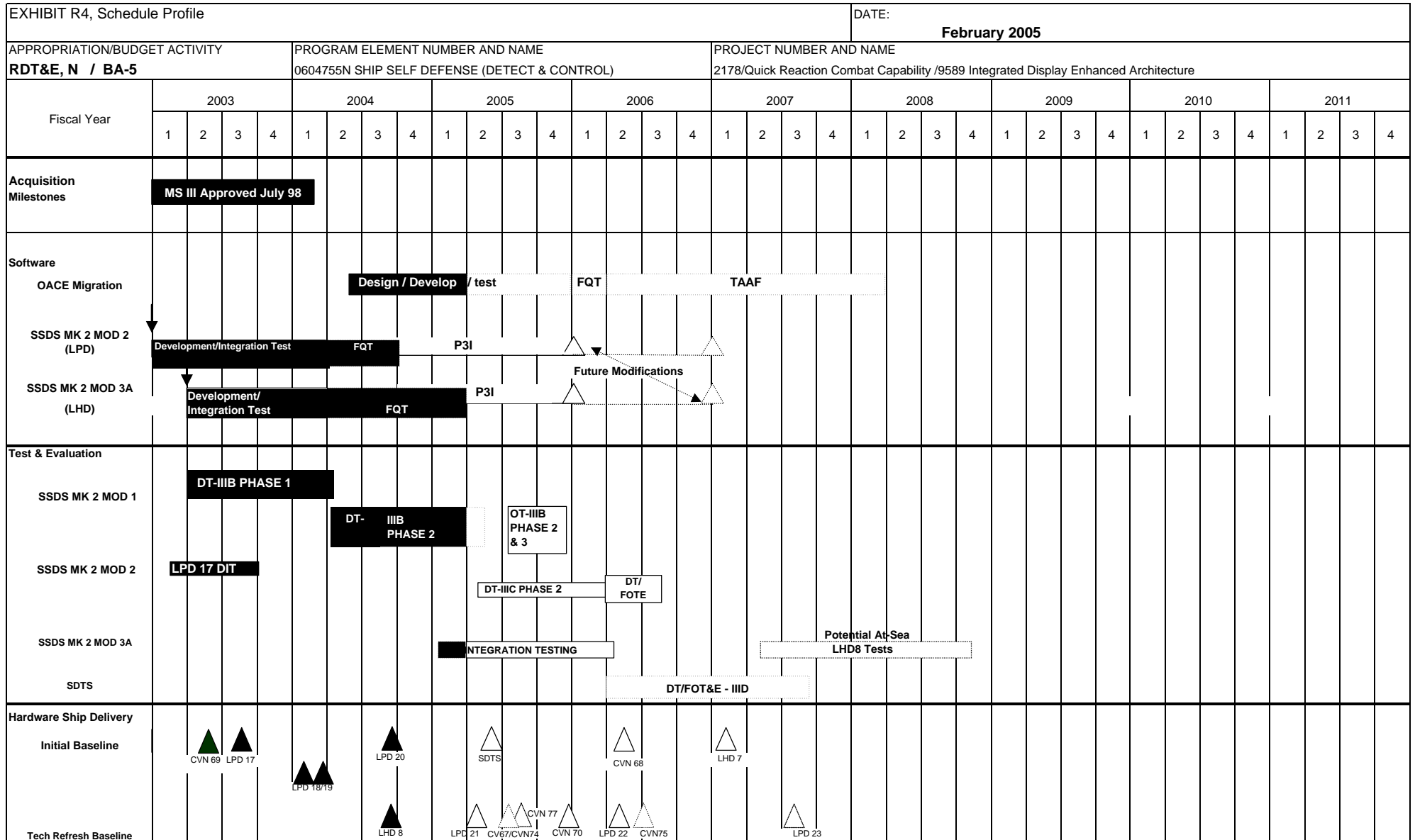
Exhibit R-3 Cost Analysis (page 2)								DATE: February 2005						
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME							
RDT&E, N / BA-5			0604755N SHIP SELF DEFENSE (DETECT & CONTROL)				2178 Quick Reaction Combat Capability / 9589 Integrated Display Enhanced Architecture							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NAVSEA/PHD-Pt Hueneme,CA	28.905	5.833	10/03	2.369	10/04	5.728	10/05	3.585	10/06	0.000	46.420	N/A
Developmental Test & Evaluation	WR	NAVSEA/DD,Dahlgren, VA	1.105	0.340	10/03	0.500	10/04	2.425	10/05	0.000	10/06	0.000	4.370	N/A
Developmental Test & Evaluation	WR	NAVSEA DD, Wallops Island	17.928	1.375	10/03	2.642	10/04	2.599	10/05	0.000	10/06	0.000	24.544	N/A
Developmental Test & Evaluation	SS/FP	JHU/APL- Laurel, MD	4.383	0.900	N/A	1.245	N/A	2.596	N/A	0.000	N/A	0.000	9.124	N/A
Developmental Test & Evaluation	WR	NAVSEA/CORONA, Corona CA	0.998	0.000	10/03	0.000	10/04	0.000	10/05	0.000	10/06	0.000	0.998	N/A
Developmental Test & Evaluation	WR	OPTEVFOR	1.048	0.239	10/03	0.240	10/04	0.400	10/05	0.000	10/06	0.000	1.927	N/A
Developmental Test & Evaluation	SS/CPFF	RSC (5104)-San Diego, CA	0.000	0.000	N/A	2.570	10/04	11.320	10/05	0.000	10/06	0.000	13.890	65.471
Misc.	Various	Various	3.924	0.260	N/A	0.150	N/A	0.000	N/A	0.000	N/A	0.000	4.334	N/A
Subtotal T&E		see Note (1) below in remarks	58.291	8.947		9.716		25.068		3.585		0.000	105.607	N/A
Remarks:														
Program Management Support			8.507	1.786	N/A	0.800	N/A	0.800	N/A	0.000	N/A	0.000	11.893	N/A
													0.000	N/A
Subtotal Management			8.507	1.786		0.800		0.800		0.000		0.000	11.893	N/A
Remarks:														
Total Cost			366.872	44.670	N/A	48.118	N/A	40.481	N/A	3.585	N/A	0.000	503.726	N/A
Remarks:														

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* Efforts described with dotted lines in FY 06 support the SCN LHD-8 schedule

* SSDS MK2, CVN76 test event movement is in direct connection to ICAN Availability add.

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Exhibit R-4a, Schedule Detail					DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E, N BA-5	0604755N SHIP SELF DEFENSE (DETECT & CONTROL)				2178/Quick Reaction Combat Capability / 9589 Integrated Enhanced Display Architecture			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
SSDS OACE Migration								
DESIGN AND DEVELOPMENT	1Q-4Q	1Q-4Q						
DEVELOPMENTAL TESTING AT WALLOPS		1Q-4Q						
FORMAL QUALIFICATION TEST (FQT)			1Q-2Q					
SIT			2Q-3Q					
VALIDATION & CERTIFICATION			4Q	1Q-4Q				
SSDS MK 2 MOD 1 (CV/CVNs)								
INTEGRATION/DEVELOPMENTAL TESTS / Phase I	2Q							
TEST READINESS REVIEW (TRR)	2Q	1Q						
CSIT TESTING	1Q-4Q	1Q						
ONBOARD TEST EVENTS / Phase II	2Q-4Q	1Q-4Q						
CSSQT		2Q						
SSDS MK 2 MOD 2 (LPDs)								
SYSTEM DEVELOPMENT								
INTEGRATION TESTING								
FORMAL QUALIFICATION TEST (FQT)	3Q							
LPD-17 (SCN) DIT								
INTEGRATION/DEVELOPMENTAL TESTS / Phase I	1Q-2Q							
TEST READINESS REVIEW (TRR)	2Q	2Q-3Q						
CSIT TESTING	3Q-4Q	1Q						
ONBOARD TEST EVENTS / Phase II		2Q-3Q	1Q-3Q					
CSSQT		4Q						
SSDS MK 2 MOD 3A (LHDs) LHD 8 - Lead Ship (SCN)								
SYS ENGINEERING/SYSTEM DEVELOPMENT	1Q-3Q	1Q-4Q	1Q-4Q					
INTEGRATION TESTING		2Q-4Q	1Q-3Q	1Q-4Q				
FORMAL QUALIFICATION TEST (FQT)		1Q2Q						
INTEGRATION/DEVELOPMENTAL TESTS / Phase I		2Q-4Q						
TEST READINESS REVIEW (TRR)		3Q-4Q		3Q				
CSIT TESTING		3Q-4Q	1Q-4Q	1Q-2Q				
ONBOARD TEST EVENTS /Phase II (LHD 8 Unique)			1Q-4Q	1Q-3Q				
CSSQT LHD 8				4Q				
SDTS								
DT/FOT&E - IIID/LFT&E			2Q-4Q	1Q-2Q				

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Exhibit R-2, RDTEN Budget Item Justification
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EXHIBIT R-2, RDT&E Budget Item Justification							DATE:	
							February 2005	
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE			
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					SHIP SELF DEFENSE(Engage: Hard Kill) 0604756N			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	23.067	50.678	46.026	49.252	48.448	34.472	35.252	9.647
0173 / NATO SEASPARROW	14.628	21.145	5.938	4.885	4.957	5.040	5.132	5.215
0167 / 5" Rolling Airframe Missile	4.599	11.790	30.112	44.367	43.491	29.432	30.120	4.432
9081 / PHALANX CIWS SeaRAM	3.840	17.743	9.976					
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
This program element provides funding for the development of systems that fulfill a portion of the third phase of the Ship Self Defense: Engage Hard Kill. Development in this line will focus on hard kill capabilities in which missiles are used to intercept incoming Anti-Ship Cruise Missiles (ASCM).								
(U) ENGAGEMENT: Missile and system improvements necessary to meet their requirements are being addressed via NATO SEASPARROW Missile System (NSSMS) (0173), 5" Rolling Airframe Missile (RAM) (0167), and Phalanx CIWS SeaRAM (9081). Missile improvements are to include improved kinematic performance plus advanced seeker and low elevation fuzing/warhead capability improvements. System improvements include incorporation of Phalanx detection capability into RAM system (SeaRAM).								

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05		PROGRAM ELEMENT NUMBER AND NAME 0604756N SHIP SELF DEFENSE			PROJECT NUMBER AND NAME 0167 / ROLLING AIRFRAME MISSILE			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	4.599	11.790	30.112	44.367	43.491	29.432	30.120	4.432
RDT&E Articles Qty								
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The purpose of this program is to develop a surface-to-air self-defense system utilizing a dual mode, passive Radio Frequency/Infrared 5" Rolling Airframe Missile. The baseline system (Block 0) provides a self-defense capability against active radar-guided anti-ship missiles and was developed on an equal cost share basis with the Government of the Federal Republic of Germany. The RAM Block 1 provides a capability against passive anti-ship missiles, very low altitude missiles, and maneuvering missiles through the incorporation of an infrared all-the-way mode seeker and improved fuze. The RAM Block 1 MOD 3 upgrade program, which provides an additional capability against helicopters, aircraft and surface craft, is a joint requirement of the U.S. and Federal Republic of Germany agreed to in a Memorandum of Agreement (MOA) signed by both parties. Since PB04, funding has been added (FY05-10) to initiate development and testing of a kinematic upgrade to the RAM. This upgrade will allow RAM to regain battlespace lost to emerging, more maneuverable ASCM threats. This system is designed to counter anti-ship cruise missile raids and other threats to provide for ship survivability with accurate terminal guidance, proven lethality, and no shipboard post launch dependence.								

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05	PROGRAM ELEMENT NUMBER AND NAME 0604756N SHIP SELF DEFENSE	PROJECT NUMBER AND NAME 0167 / ROLLING AIRFRAME MISSILE		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
RAM Testing	3.042	0.000	0.500	0.000
RDT&E Articles Quantity				
FY04-06 funds Block 1 FOT&E and government MOD 3 testing and analysis.				
	FY 04	FY 05	FY 06	FY 07
RAM Block 1 Eng/Interface Support	0.374	0.000	0.450	1.890
RDT&E Articles Quantity				
Supports on-going efforts in RAM engineering for emergent issues/obsolescence issues including EDS interface transition.				
	FY 04	FY 05	FY 06	FY 07
Improvement for Missile Deficiency	1.027	0.635	1.050	1.411
RDT&E Articles Quantity				
FY04-07 funding completes the improvement of emergent missile capability deficiencies.				
	FY 04	FY 05	FY 06	FY 07
Pre-Planned Product Improvement (P3I)		11.000	27.950	40.900
RDT&E Articles Quantity				
FY05-07 funding initiates development of RAM kinematic upgrade.				
	FY 04	FY 05	FY 06	FY 07
Travel	0.156	0.155	0.162	0.166
RDT&E Articles Quantity				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																								
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05	PROGRAM ELEMENT NUMBER AND NAME 0604756N SHIP SELF DEFENSE	PROJECT NUMBER AND NAME 0167 / ROLLING AIRFRAME MISSILE																																																									
<p>C. PROGRAM CHANGE SUMMARY:</p> <table> <tr> <td>Funding:</td> <td>FY 2004</td> <td>FY 2005</td> <td>FY 2006</td> <td>FY 2007</td> </tr> <tr> <td>FY05 Presidents Budget</td> <td>4.977</td> <td>11.931</td> <td>30.042</td> <td>44.066</td> </tr> <tr> <td>FY06 Presidents Budget</td> <td>4.599</td> <td>11.790</td> <td>30.112</td> <td>44.367</td> </tr> <tr> <td>Total Adjustments</td> <td>-0.378</td> <td>-0.141</td> <td>0.070</td> <td>0.301</td> </tr> <tr> <td colspan="5">Summary of Adjustments</td> </tr> <tr> <td>FY04 SBIR</td> <td>-0.065</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Programmatic/Other Adjustments</td> <td></td> <td>-0.034</td> <td>0.070</td> <td>0.301</td> </tr> <tr> <td>Undistributed Congressional Reductions</td> <td></td> <td>-0.107</td> <td></td> <td></td> </tr> <tr> <td>BTR</td> <td>-0.300</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Cancelled Account</td> <td>-0.013</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Subtotal</td> <td>-0.378</td> <td>-0.141</td> <td>0.070</td> <td>0.301</td> </tr> </table> <p>Schedule:</p> <p>A Pre-Planned Performance Improvement upgrade will be initiated in FY05.</p> <p>Technical: N/A</p>					Funding:	FY 2004	FY 2005	FY 2006	FY 2007	FY05 Presidents Budget	4.977	11.931	30.042	44.066	FY06 Presidents Budget	4.599	11.790	30.112	44.367	Total Adjustments	-0.378	-0.141	0.070	0.301	Summary of Adjustments					FY04 SBIR	-0.065				Programmatic/Other Adjustments		-0.034	0.070	0.301	Undistributed Congressional Reductions		-0.107			BTR	-0.300				Cancelled Account	-0.013				Subtotal	-0.378	-0.141	0.070	0.301
Funding:	FY 2004	FY 2005	FY 2006	FY 2007																																																							
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EXHIBIT R-2a, RDT&E Project Justification									DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-05			PROGRAM ELEMENT NUMBER AND NAME 0604756N SHIP SELF DEFENSE				PROJECT NUMBER AND NAME 0167 / ROLLING AIRFRAME MISSILE			
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
OPN LINE 523800 (RAM)	\$29.791	\$26.804	\$17.488	\$10.298	\$9.295	\$8.932	\$9.136	\$9.287	\$0.000	\$666.950
WPN LINE 224200 (RAM)	\$47.622	\$47.229	\$86.944	\$81.038	\$110.311	\$86.058	\$91.705	\$93.552	\$420.100	\$1,303.759
E. ACQUISITION STRATEGY: *										
RAM Block 1 MOD 3 Development and Testing FY04-05; improvements of missile capability deficiency against emergent threat FY2004-2007. Kinematic Upgrade (P3I) development FY05-10.										
F. MAJOR PERFORMERS: **										
Raytheon Systems Company - Tucson, AZ - RAM Prime Contractor for Development and Contractor Test and Evaluation. Award Dates: FY04 - 11/03; FY05 - 11/04; FY06 - 11/05; FY07 - 11/06										
Naval Air Weapons Center, China Lake - China Lake, CA - Missile ISEA supporting RAM development and testing. Award dates are N/A, since funding will be provided under NAVSEA Seatask to field activity.										
Naval Surface Warfare Center, Port Hueneme - Port Hueneme, CA - Launcher ISEA supporting development, testing, integration and test ranges. Award dates are N/A, since funding will be provided under NAVSEA Seatask to field activity.										

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Exhibit R-3 Cost Analysis (page 1)											DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT					PROJECT NUMBER AND NAME						
RDT&E, N / BA-05			0604756N SHIP SELF DEFENSE					0167 / ROLLING AIRFRAME MISSILE						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY04 Cost	FY04 Award Date	FY05 Cost	FY05 Award Date	FY06 Cost	FY06 Award Date	FY07 Cost	FY07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	SS/CPFF	Raytheon Co, Tucson AZ & Louisville, KY	3.544	1.027	11/03	0.635	11/04	0.900	11/05	1.211	11/06	Continuing	Continuing	
Primary Hardware Dev Spt	WX	NAWC/China Lake						0.150	11/05	0.200	11/06	Continuing	Continuing	
Block 1 MOD 3 Eng/Interface Spt	SS/CPFF	Raytheon Co, San Diego						0.350	11/05	1.740	11/06	Continuing	Continuing	
Block 1 MOD 3 Interface Spt	CPFF	JHU/APL	0.400	0.374	11/03			0.100	11/05	0.150	11/06	Continuing	Continuing	
Performance Improvement upgrade	SS/CPAF	Raytheon Co, Tucson AZ & Louisville, KY				7.033	11/04	24.538	11/05	34.250	11/06	Continuing	Continuing	
Performance Improvement upgrade	WX	CL/NRL/DD				3.667	11/04	3.012	11/05	6.250	11/06	Continuing	Continuing	
Performance Improvement upgrade	CPFF	JHU/APL				0.300	11/04	0.400	11/05	0.400	11/06	Continuing	Continuing	
Subtotal Product Development			3.944	1.401		11.635		29.450		44.201		Continuing	Continuing	
Development Support														
Software Development														
Integrated Logistics Support														
Configuration Management														
Technical Data														
Studies & Analyses														
GFE														
Award Fees														
Subtotal Support			0.000			0.000		0.000		0.000		0.000	0.000	
Remarks:														

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME								
RDT&E, N / BA-05			0604756N SHIP SELF DEFENSE				0167 / ROLLING AIRFRAME MISSILE								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY04 Cost	FY04 Award Date	FY05 Cost	FY05 Award Date	FY06 Cost	FY06 Award Date	FY07 Cost	FY07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
DT&E/OT&E/FOT&E/CTE	SS/CPAF	Raytheon Co, Tucson AZ & Louisville, KY	1.244	1.040	11/03							Continuing	Continuing		
FOT&E	WX	China Lake CA, PHD CA	3.266	1.408	11/03							Continuing	Continuing		
Test Support	WX	China Lake CA, PHD CA						0.500	11/05			Continuing	Continuing		
CTE Support	WX	NSWC/PHD CA										Continuing	Continuing		
Miscellaneous		Various	0.827	0.594	11/03							Continuing	Continuing		
P3I Development and Systems Engineering															
Subtotal T&E			5.337	3.042		0.000		0.500		0.000		Continuing	Continuing		
Contractor Engineering Support															
Government Engineering Support															
Program Management Support															
Travel				0.156	10/03	0.155	10/04	0.162	10/05	0.166	10/06	Continuing	Continuing		
Transportation															
SBIR Assessment															
Subtotal Management				0.156		0.155		0.162		0.166		Continuing	Continuing		
Total Cost			9.281	4.599		11.790		30.112		44.367		Continuing	Continuing		

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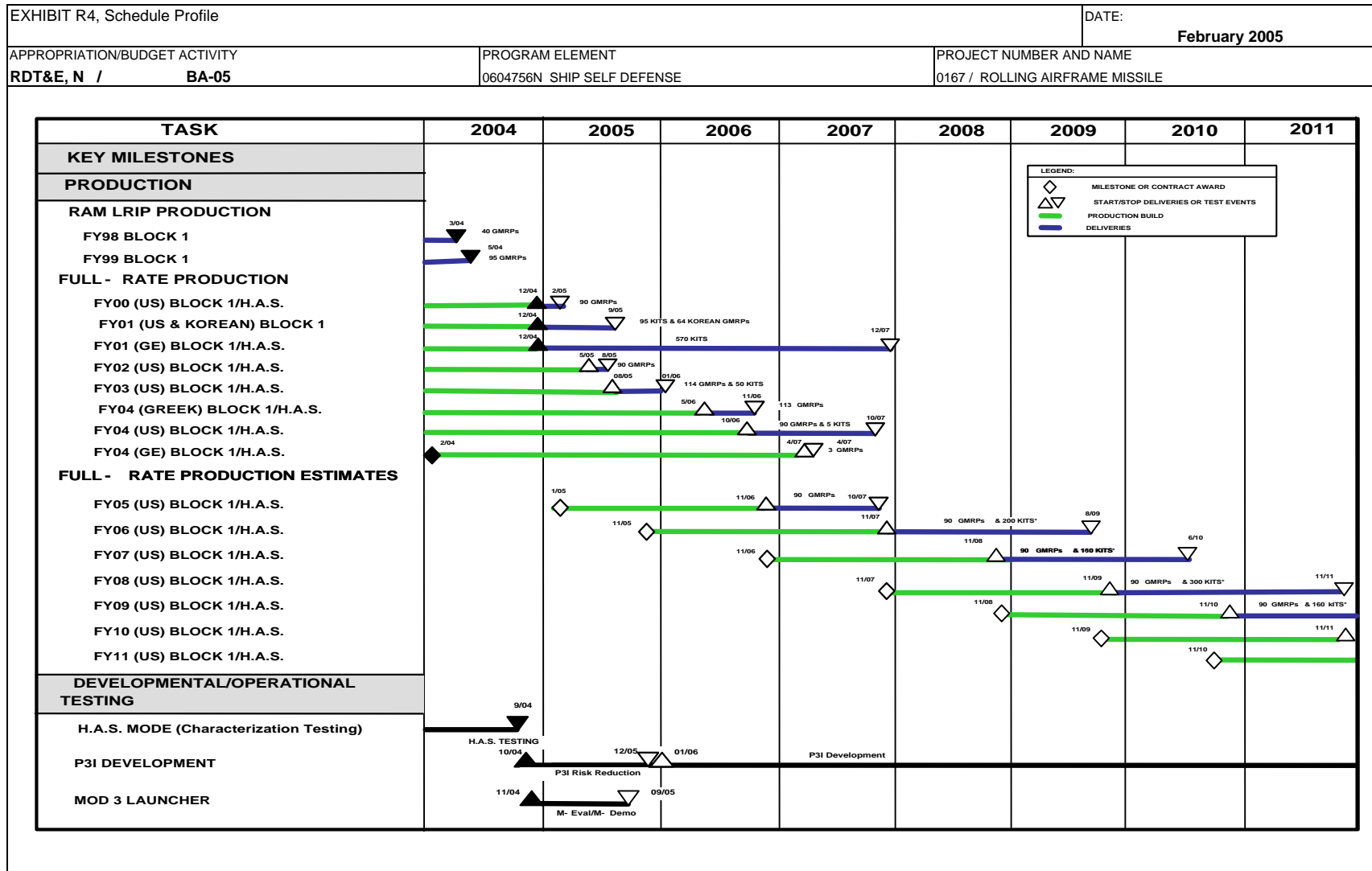
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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 7 of 26)

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* Not required for Budget Activities 1, 2, 3, and 6

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Exhibit R-4a, Schedule Detail						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME		
RDT&E, N BA-05		0604756N SHIP SELF DEFENSE				0167 / ROLLING AIRFRAME MISSILE		
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
FY98 LRIP Deliveries	1Q-2Q							
FY99 LRIP Deliveries	1Q-3Q							
FY00 Full Rate Production (FRP) Deliveries		1Q						
FY02 FRP Deliveries		3Q-4Q	1Q-2Q					
FY03 FRP Deliveries		4Q	1Q					
FY04 FRP Contract Award	1Q							
FY04 FRP Deliveries				1Q-4Q	1Q			
FY05 FRP Contract Award		2Q						
FY05 FRP Deliveries				1Q-4Q	1Q			
FY06 FRP Contract Award			1Q					
FY06 FRP Deliveries					1Q-4Q			
FY07 FRP Contract Award				1Q				
FY07 FRP Deliveries						1Q-4Q		
FY08 FRP Contract Award					1Q			
FY08 FRP Deliveries							1Q-4Q	
FY09 FRP Contract Award						1Q		
FY09 FRP Deliveries								1Q-4Q
FY10 FRP Contract Award							1Q	
FY10 FRP Deliveries								
FY11 FRP Contract Award								1Q
FY11 FRP Deliveries								
Block 1 FOT&E	1Q							
Block 1 MOD 3 H.A.S. Testing	1Q-4Q							
M-Eval/M-Demo		1Q-4Q						
HAS/SeaRAM Integration			1Q-4Q					
P3I Development		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		
P3I DT/OT							1Q-3Q	

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05		PROGRAM ELEMENT NUMBER AND NAME 0604756N SHIP SELF DEFENSE-ENGAGE			PROJECT NUMBER AND NAME 9081 / PHALANX CIWS SEA RAM			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	3.840	17.743	9.976	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The purpose of this ECP effort is to combine the PHALANX Close-In Weapons System (CIWS) radar with the Rolling Airframe Missile (RAM) Block 1 Missile System. The overall SeaRAM strategy is to field a low-risk-development cost system utilizing the proven capabilities and infrastructure of the RAM and PHALANX CIWS systems. This U.S. Navy SeaRAM development leverages the successful demonstration by the United Kingdom of an industry prototype system aboard the HMS York. The SeaRAM ORDALT ECP will provide improved detection and performance capabilities in a stand-alone self-defense system that will defeat the near-term, stressing Anti-Ship Cruise Missile (ASCM) threats. The FY04 Congressional Plus-up continued the U.S. Navy system/software engineering of the SeaRAM ORDALT ECP. FY05-06 funding completes development and testing of the ECP.								

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05	PROGRAM ELEMENT NUMBER AND NAME 0604756N SHIP SELF DEFENSE-ENGAGE	PROJECT NUMBER AND NAME 9081 / PHALANX CIWS SEA RAM		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
SeaRAM Development	3.840	11.401	0.500	0.000
RDT&E Articles Quantity				
FY04-06 funding used to continue development of the SeaRAM ECP for the RAM MK31 Guided Missile Weapon System.				
	FY 04	FY 05	FY 06	FY 07
SeaRAM Testing	0.000	6.312	9.376	0.000
RDT&E Articles Quantity				
Contractor Test and Evaluation, analysis, and planning for DT/OT.				
	FY 04	FY 05	FY 06	FY 07
Travel	0.000	0.030	0.100	0.000
RDT&E Articles Quantity				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																														
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05	PROGRAM ELEMENT NUMBER AND NAME 0604756N SHIP SELF DEFENSE (ENGAGE: HARD KILL)	PROJECT NUMBER AND NAME 9081 / PHALANX CIWS SEARAM																																															
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 30%;">Funding:</th> <th style="text-align: right; width: 15%;">FY 2004</th> <th style="text-align: right; width: 15%;">FY 2005</th> <th style="text-align: right; width: 15%;">FY 2006</th> <th style="text-align: right; width: 15%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>FY05 Presidents Budget</td> <td style="text-align: right;">3.955</td> <td style="text-align: right;">17.931</td> <td style="text-align: right;">9.972</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>FY06 Presidents Budget</td> <td style="text-align: right;">3.840</td> <td style="text-align: right;">17.743</td> <td style="text-align: right;">9.976</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-0.115</td> <td style="text-align: right; border-top: 1px solid black;">-0.188</td> <td style="text-align: right; border-top: 1px solid black;">0.004</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional reductions</td> <td style="text-align: right;">-0.004</td> <td style="text-align: right;">-0.175</td> <td></td> <td></td> </tr> <tr> <td> FY04 SBIR</td> <td style="text-align: right;">-0.111</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Other Misc. Adjustments</td> <td></td> <td style="text-align: right;">-0.013</td> <td style="text-align: right;">0.004</td> <td></td> </tr> <tr> <td> Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">-0.115</td> <td style="text-align: right; border-top: 1px solid black;">-0.188</td> <td style="text-align: right; border-top: 1px solid black;">0.004</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule:</p> <p style="margin-top: 20px;">FY04 Congressional Plus-up continued development of SeaRAM System for the RAM MK31 Guided Missile Weapons System. FY05-06 funding is for continued development and testing.</p> <p style="margin-top: 40px;">Technical: N/A</p>					Funding:	FY 2004	FY 2005	FY 2006	FY 2007	FY05 Presidents Budget	3.955	17.931	9.972	0.000	FY06 Presidents Budget	3.840	17.743	9.976	0.000	Total Adjustments	-0.115	-0.188	0.004	0.000	Summary of Adjustments					Congressional reductions	-0.004	-0.175			FY04 SBIR	-0.111				Other Misc. Adjustments		-0.013	0.004		Subtotal	-0.115	-0.188	0.004	0.000
Funding:	FY 2004	FY 2005	FY 2006	FY 2007																																													
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EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05		PROGRAM ELEMENT NUMBER AND NAME 0604756N SHIP SELF DEFENSE-ENGAGE			PROJECT NUMBER AND NAME 9081 / PHALANX CIWS SEA RAM					
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
OPN LINE 523800 (RAM)	\$29.791	\$26.804	\$17.488	\$10.298	\$9.295	\$8.932	\$9.136	\$9.287	\$0.000	\$666.950
WPN LINE 224200 (RAM)	\$47.622	\$47.229	\$86.944	\$81.038	\$110.311	\$86.058	\$91.705	\$93.552	\$420.100	\$1,303.759
E. ACQUISITION STRATEGY:										
SeaRAM Development and Testing										
F. MAJOR PERFORMERS:										
Raytheon Systems Company - Tucson, AZ - SeaRAM Prime Contractor for Development. Award Date: FY04 - 02/04; FY05 -11/04; FY06 - 11/05										
Naval Air Weapons Center, China Lake - China Lake, CA - Supporting SeaRAM development and testing. Award dates are N/A, since funding will be provided under NAVSEA Seatask to field activity.										
Naval Surface Warfare Center, Port Hueneme - Port Hueneme, CA - Supporting development, testing, integration and test ranges. Award dates are N/A, since funding will be provided under NAVSEA Seatask to field activity.										

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Exhibit R-3 Cost Analysis (page 1)											DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME								
RDT&E, N / BA-05		0604756N SHIP SELF DEFENSE (ENGAGE: HARD KILL)				9081 / PHALANX CIWS SEARAM								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY04 Cost	FY 04 Award Date	FY05 Cost	FY 05 Award Date	FY06 Cost	FY 06 Award Date	FY07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	SS/CPFF	Raytheon, Tucson AZ & Louisville, KY		3.840	02/04	6.901	11/04			0.000			10.741	
Ancillary Hardware Development														
Aircraft Integration														
Ship Integration	SS/CPFF	Raytheon, Tucson AZ & Louisville, KY				3.500	11/04			0.000			3.500	
Ship Suitability														
Systems Engineering	IPR	EG&G				0.500	11/04	0.500	11/05	0.000			1.000	
Training Development														
Studies/Analysis	CPFF	APL				0.500	11/04			0.000			0.500	
Tooling														
GFE														
Award Fees														
Subtotal Product Development			0.000	3.840		11.401		0.500		0.000			15.741	
Remarks:														
Development Support														
Software Development														
Integrated Logistics Support														
Configuration Management														
Technical Data														
Studies & Analyses														
GFE														
Award Fees														
Subtotal Support			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)											DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME								
RDT&E, N / BA-05		0604756N SHIP SELF DEFENSE (ENGAGE: HARD KILL)				9081 / PHALANX CIWS SEARAM								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Contractor Test & Evaluation	SS/CPAF	Raytheon, Tucson AZ & Louisville, KY				3.812	11/04	1.404	11/05				5.216	
CT,DT&E, OT	WX	NSWC/PHD& China Lake				2.500	11/04	7.972	11/05				10.472	
Live Fire Test & Evaluation														
Test Assets														
Tooling														
GFE														
Award Fees														
Subtotal T&E			0.000	0.000		6.312		9.376		0.000			15.688	
Remarks:														
Contractor Engineering Support														
Government Engineering Support														
Program Management Support														
Travel						0.030	10/04	0.100	10/05				0.130	
Transportation														
SBIR Assessment														
Subtotal Management			0.000	0.000		0.030		0.100		0.000			0.130	
Remarks:														
Total Cost			0.000	3.840		17.743		9.976		0.000			31.559	
Remarks:														

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Fiscal Year	2003	2004	2005	2006	2007	2008	2009
System Development							
CDR							
Testing CTE/NTE							
Testing DT/OT							

Milestone Contract Award

Start/Stop Deliveries Or Test Events

Production Build

Deliveries

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 17 of 26)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME			
RDT&E, N / BA-5	SHIP SELF DEFENSE(Engage: Hard Kill) 0604756N				NATO SEASPARROW/0173			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	14.628	21.145	5.938	4.885	4.957	5.040	5.132	5.215
RDT&E Articles Qty								
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
This project encompasses two (2) primary efforts to enhance ship self defense:								
1. (U) EVOLVED SEASPARROW MISSILE (ESSM): A cooperative effort among 10 NATO SEASPARROW Nations, including the U.S., to improve the capability of the SEASPARROW Missile to counter the low altitude, highly maneuverable Anti-Ship Cruise Missile threat. The program consists of evolving the SEASPARROW Missile through the development of a new rocket motor with tail control; thrust vector control and ordnance (warhead) upgrade; modifications to the MK 41 VLS to fire from a single cell with 4 ESSM (QuadPack); and modifications to the NATO SEASPARROW Missile System (NSSMS) to provide ESSM capability.								
2. (U) NATO SEASPARROW - MK 91 Rearchitecture/SDSMS: The MK 91 Rearchitecture Program integrates NSSMS into the Ship Self Defense System (SSDS) Architecture to provide ship missile defense utilizing an open architected system. This effort consists of combining the Firing Officer Console and Radar Set Console functionality into a single Advanced Display System Console (AN/UYQ-70); modifying the Signal Data Processor and eliminating the MK 157 Computer Signal Data Converter and System Evaluation and Trainer, and redistributing this functionality within SSDS compatible microprocessors. This approach will eliminate the analog, point-to-point architecture, limited input-output channel and computer processing reserve deficiencies resident in the existing MK 57 NSSMS, and is required for ESSM. This modification also allows for full exploitation of the capabilities of the future ESSM and provides significant reductions (over 50%) in NSSMS cost of ownership and manning requirements.								

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / 5	PROGRAM ELEMENT NUMBER AND NAME SHIP SELF DEFENSE(Engage: Hard Kill) 0604756N	PROJECT NUMBER AND NAME NATO SEASPARROW/0173		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	3.187	2.126	3.254	3.299
RDT&E Articles Quantity				
<p>Continued AEGIS S Band development. Conducted U.S. Unique DT-IIC/OT-IIC firings on SDTS and TECHEVAL/OPEVAL (DT-IIE/OT-IID) on AEGIS platforms. Correct engineering deficiencies identified as a result of TECHEVAL / OPEVAL. Provides funding for the ESSM S2S/HOH firings and firings associated with DT/OT on Aegis/DDG platforms. This provides for the U.S. share of Cooperative efforts associated with ESSM engineering studies and other development Initiatives.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	6.505	3.891	1.200	0.500
RDT&E Articles Quantity				
<p>Development:Utilizing existing technology and the Mk 29 Trainable Launcher, develop a program for the adaptation and U.S. certification of the launching system and make available for U.S. Navy deployment. Provide for the development to accommodate Evolved SEASPARROW Missiles which will provide full dimensional protection against the evolutionary threat of ASCMs on non-AEGIS platforms. Conduct restrained firings and DT/OT on the Self Defense Test ship in FY 05. Correct engineering deficiencies identified as a result of DT/OT.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.845	7.347	0.000	0.000
RDT&E Articles Quantity				
<p>Introduces Test and Evaluation of the ESSM Baseline Missile software for CV/CVNs. The CV/CVN/LHD Classes will see introduction of ESSM in FY 05 with the MK29/ESSM Launcher. RNSSMS/SSDS MK 2. FOT &E will be required to validate Combat system effectiveness.</p>				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / 5	PROGRAM ELEMENT NUMBER AND NAME SHIP SELF DEFENSE(Engage: Hard Kill) 0604756N	PROJECT NUMBER AND NAME NATO SEASPARROW/0173																	
B. Accomplishments/Planned Program (Cont.)																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY 04</td> <td style="width: 15%;">FY 05</td> <td style="width: 15%;">FY 06</td> <td style="width: 15%;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>3.091</td> <td>7.781</td> <td>0.750</td> <td>0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	3.091	7.781	0.750	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	3.091	7.781	0.750	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 10px; min-height: 100px;"> SSDS Post Integration: Building upon the current NSSMS MK 57 Mod 4 - 9 upgrade (Re-architected NSSMS) that provided an initial capability with SSDS MK 2 in support of the Maritime Force Protection (MFP) program, evolve the fire control system component to implement the additional organic capabilities required by the MFP Performance & Compatibility Requirements (P&CR) for CVNs. This effort will maintain compatibility with RNSSMS and evolving Next Generation Ship Defense post SSDS Mk 2, fully exploit RNSSMS performance capabilities, and develop RNSSMS capabilities consistent with the full-approved Integration Specifications. It will also support the evolutionary weapons and control system development to counter future evolving threats. Efforts scheduled for completion in FY 06. </div>																			
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	FY 04	FY 05	FY 06	FY 07															
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RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 10px; min-height: 100px;"> Provide funding for the Combat System Integration Technical Direction Agent (TDA) who will provide engineering support for combat system performance and risk mitigation. The TDA will leverage its technical expertise and leadership to cover a broad range of activities such as defining near-term and future requirements for current systems and future upgrades, maintain system performance models to evaluate system improvements, threat changes and operational environment conditions, verify models and simulations to promote program success through application of rigorous and disciplined systems engineering principles and practices in a consistent manner across system elements over the program life cycle, make prudent use of authoritative technical expertise for advice and independent review, identify a range of technically acceptable alternatives to resolve engineering issues, assist in development of T&E planning, and continue to maintain project office essential research and engineering capabilities and corporate memory. </div>																			

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																			
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<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;"></th> <th style="text-align: right; width: 10%;">FY 2004</th> <th style="text-align: right; width: 10%;">FY 2005</th> <th style="text-align: right; width: 10%;">FY 2006</th> <th style="text-align: right; width: 10%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY05 President's Budget</td> <td style="text-align: right;">15.368</td> <td style="text-align: right;">21.351</td> <td style="text-align: right;">5.642</td> <td style="text-align: right;">4.868</td> </tr> <tr> <td>FY06 President's Budget</td> <td style="text-align: right;">14.628</td> <td style="text-align: right;">21.145</td> <td style="text-align: right;">5.938</td> <td style="text-align: right;">4.885</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-0.740</td> <td style="text-align: right; border-top: 1px solid black;">-0.206</td> <td style="text-align: right; border-top: 1px solid black;">0.296</td> <td style="text-align: right; border-top: 1px solid black;">-0.017</td> </tr> <tr> <td>Summary of Adjustments</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Programatic/Other Adjustment</td> <td style="text-align: right;">-0.389</td> <td></td> <td style="text-align: right;">0.296</td> <td style="text-align: right;">-0.017</td> </tr> <tr> <td> Congressional Reductions</td> <td></td> <td style="text-align: right;">-0.206</td> <td></td> <td></td> </tr> <tr> <td> SBIR</td> <td style="text-align: right;">-0.351</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Subtotal</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 3px double black;">-0.740</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 3px double black;">-0.206</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 3px double black;">0.296</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 3px double black;">-0.017</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule:</p> <p style="margin-top: 20px;">Technical:</p> <p style="margin-left: 40px;">"Not Applicable."</p>						FY 2004	FY 2005	FY 2006	FY 2007	Funding:					FY05 President's Budget	15.368	21.351	5.642	4.868	FY06 President's Budget	14.628	21.145	5.938	4.885	Total Adjustments	-0.740	-0.206	0.296	-0.017	Summary of Adjustments					Programatic/Other Adjustment	-0.389		0.296	-0.017	Congressional Reductions		-0.206			SBIR	-0.351				Subtotal	-0.740	-0.206	0.296	-0.017
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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005																																																																	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME SHIP SELF DEFENSE(Engage: Hard Kill) 0604756N			PROJECT NUMBER AND NAME NATO SEASPARROW/0173																																																																		
D. OTHER PROGRAM FUNDING SUMMARY: <table border="1"> <thead> <tr> <th><u>Line Item No. & Name</u></th> <th><u>FY 2004</u></th> <th><u>FY 2005</u></th> <th><u>FY 2006</u></th> <th><u>FY 2007</u></th> <th><u>FY 2008</u></th> <th><u>FY 2009</u></th> <th><u>FY 2010</u></th> <th><u>FY 2011</u></th> </tr> </thead> <tbody> <tr> <td>WPN BA-2 Other Missiles, Evolved SEASPARROW (ESSM) (230700)</td> <td>101.2</td> <td>80.3</td> <td>99.8</td> <td>100.2</td> <td>102.6</td> <td>105.5</td> <td>35.3</td> <td>16.0</td> </tr> <tr> <td>OPN BA-4 NATO SEASPARROW (523700, 523705)</td> <td>32.3</td> <td>25.3</td> <td>38.4</td> <td>4.7</td> <td>28.7</td> <td>12.3</td> <td>12.7</td> <td>12.7</td> </tr> <tr> <td>Related RDT&E:</td> <td colspan="8"></td> </tr> <tr> <td> PE 0603609N (Conventional Munitions)</td> <td colspan="8"></td> </tr> <tr> <td> PE 0604307N (AEGIS Combat System Engineering)</td> <td colspan="8"></td> </tr> <tr> <td> PE 0604755N (K2178 Quick Reaction Combat Capability (QRCC))</td> <td colspan="8"></td> </tr> </tbody> </table>									<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	WPN BA-2 Other Missiles, Evolved SEASPARROW (ESSM) (230700)	101.2	80.3	99.8	100.2	102.6	105.5	35.3	16.0	OPN BA-4 NATO SEASPARROW (523700, 523705)	32.3	25.3	38.4	4.7	28.7	12.3	12.7	12.7	Related RDT&E:									PE 0603609N (Conventional Munitions)									PE 0604307N (AEGIS Combat System Engineering)									PE 0604755N (K2178 Quick Reaction Combat Capability (QRCC))								
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E. ACQUISITION STRATEGY: * <p>ESSM is a directed sole source contract to Raytheon Missile Systems Company for LRIP, and after successful completion of TECHEVAL/OPEVAL in FY 03, entered into Full Rate Production FY 04. Multi-year full rate production is the preferred approach for the NATO SEASPARROW Consortium.</p>																																																																							
F. MAJOR PERFORMERS: <ol style="list-style-type: none"> 1. Raytheon Missile Co. Tuscon 2/04, 11/04 ESSM Testing/ Engineering support 2. Raytheon Company (IDS) Portsmouth R.I. - MK 29 GMLS/ESSM Dev 2/04 -2/05 3. Naval Air Weapons Center China Lake, Point Mugu CA - Missile TDA supporting Development/Testing Funding under SEATASKs to field activities 10/04, 10/05 4. Naval Surface Warfare Center - Port Hueneme CA., Dahlgren Va - provide ISEA support to ESSM in development testing. Dahlgren - Performs safety analysis/Development testing. <p>Funding issued under SEATASKs to field activities 10/04, 10/05</p>																																																																							

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE:							
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT				PROJECT NUMBER AND NAME							
RDT&E, N / BA-5				SHIP SELF DEFENSE(Engage: Hard Kill) 0604756N				NATO SEASPARROW/0173							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
ESSM-Primary Hardware Development	LC/CPAF	RAYTHEON	141.230			2.126	11/04					Continuing	Continuing		
	RX	TDW	3.746										3.746	3.746	
Ancillary Hardware Development	CPAF	LOCKHEED/UDLP	46.706										46.706	46.706	
Systems Engineering	VARIOUS	VARIOUS	22.622										22.622	22.622	
MK 29/ESSM Launcher Upgrade	LC/CPAF	RAYTHEON SYS	0.734	6.505	02/04	3.891	01/05	0.500	01/06			Continuing	Continuing		
NATO-Primary Hdwe Dev	CPFF	RAYTHEON SYS	30.627									0.000	30.627	30.627	
Software development / Test	CPFF	RAYTHEON SYS	2.346	0.985	01/04	1.650	12/04	1.447	12/05	1.606	12/06	Continuing	Continuing		
Systems Engineering/Firing Spt		VARIOUS	5.306										5.306		
SSDS Integration	CPFF	RAYTHEON SYS	1.846	2.699	01/04	7.690	12/04	0.750	10/05			Continuing	Continuing		
Subtotal Product Development			255.163	10.189		15.357		2.697		1.606		Continuing	Continuing		
Remarks:															
ESSM / NATO															
Integrated Logistics Support	WR	NSWC PHD	3.568									0.000	3.568		
Engr Support	WX	VARIOUS	3.895			0.312	10/04					0.000	4.207		
MK 29/ESSM Launcher Upgrade	WX	Dahlgren/PHD	0.375									0.000	0.375		
Engr Support	WX	VARIOUS	0.000	0.195	10/03							Continuing	Continuing		
NATO-MK 91/SSDS Integ	WX	Dahlgren/PHD	0.000	0.834	12/03							0.000	0.834		
Engr Support	WX	VARIOUS	5.817	0.227	10/03	0.320	10/04					0.000	6.364		
Engr Support	WX	NSWC PHD	0.081			0.181	10/04	0.145	10/05	0.185	10/06	Continuing	Continuing		
Subtotal Support			13.736	1.256		0.813		0.145		0.185		Continuing	Continuing		
Remarks:															

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-5			SHIP SELF DEFENSE(Engage: Hard Kill) 0604756N			NATO SEASPARROW/0173								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NAWC CL	12.974	0.489	10/03								13.463	
OPEVAL/TECHEVAL/Test Firings	WR	VARIOUS(Corona, IHD,Dalhgren,NSWC PHD)	5.884	0.676	01/04	2.799	11/04	1.696	12/05	1.707	12/06	0.000	12.762	
Developmental Test & Evaluation	CPFF	APL	0.506	0.435	01/04	0.523	12/04	0.285	12/05	0.267	12/06	Continuing	Continuing	
Developmental Test & Evaluation	WR	DALHGREN	0.000	0.200	10/03	0.218	12/04	0.000		0.000		Continuing	Continuing	
Subtotal T&E			19.364	1.800		3.540		1.981		1.974		Continuing	Continuing	
Remarks:														
ESSM-ENGR SPT	WX	VARIOUS	4.423	0.240	VARIOUS	0.250	VARIOUS	0.000		0.000		Continuing	Continuing	
ESSM-PM SPT	WX	VARIOUS	0.498					0.000		0.000		Continuing	Continuing	
ESSM-LABOR	PD/WX		5.858	0.855	10/03	0.860	10/04	0.865	10/05	0.870	10/06	Continuing	Continuing	
ESSM - TRAVEL	PD/WX		1.597	0.200	10/03	0.225	10/04	0.180	10/05	0.180	10/06	Continuing	Continuing	
ESSM- MISC	VARIOUS	VARIOUS	2.035	0.010	10/03	0.020	10/04	0.000		0.000		Continuing	Continuing	
NATO TRAVEL/MISC	PD/WX	VARIOUS	1.533	0.078	10/03	0.080	10/04	0.070	10/05	0.070	10/06	Continuing	Continuing	
Subtotal Management			15.944	1.383		1.435		1.115		1.120		Continuing	Continuing	
Remarks:														
Total Cost			304.207	14.628		21.145		5.938		4.885		Continuing	Continuing	
Remarks:														

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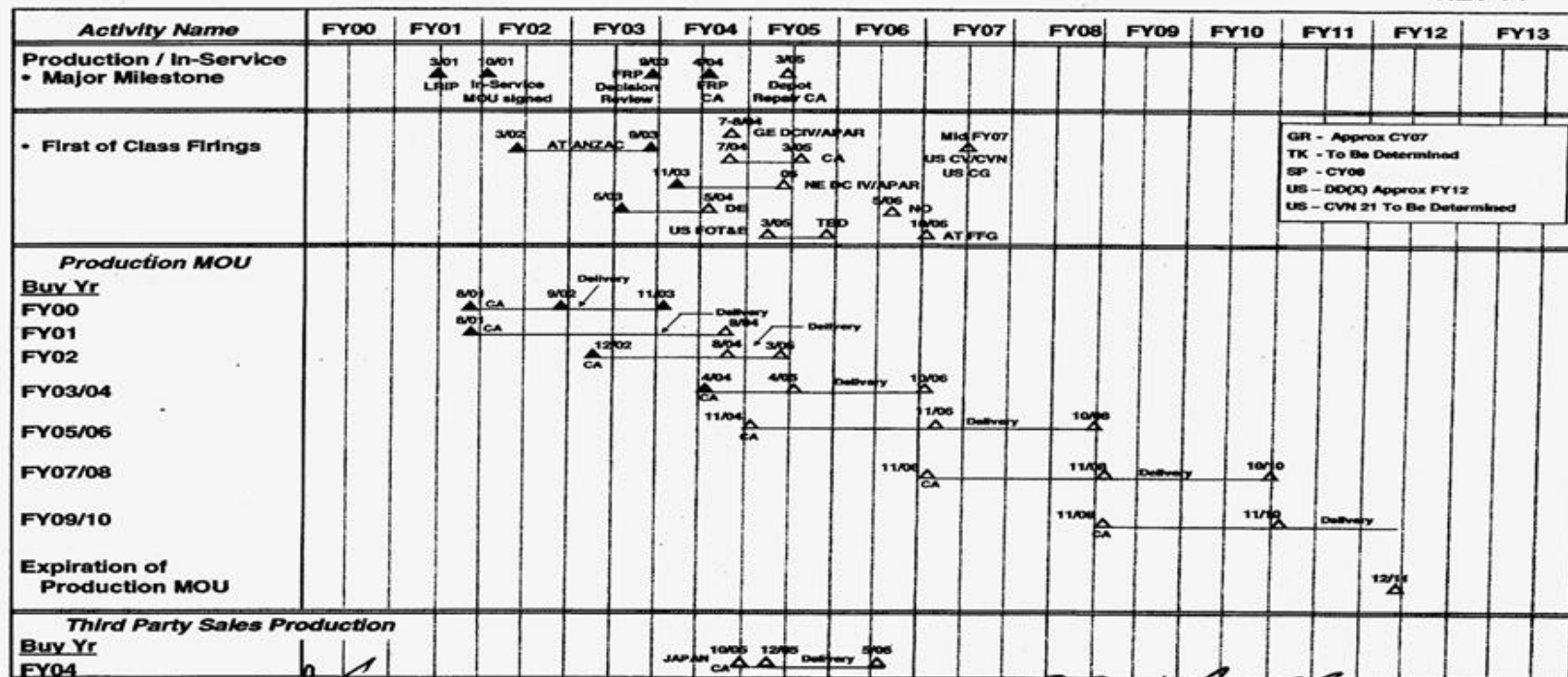
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EXHIBIT R4, Schedule Profile		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME SHIP SELF DEFENSE(Engage: Hard Kill) 0604756N	PROJECT NUMBER AND NAME NATO SEASPARROW/0173

Master ESSM Program Schedule

May 2004
REV 14



CAPT B. Cramp, Project Manager

Director, Project Operations Division

Director, ESSM Division

79FV8a RD.5/18/2004

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* Not required for Budget Activities 1, 2, 3, and 6

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[illegible]

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					R-1 ITEM NOMENCLATURE 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	48.089	41.988	24.012	11.584	18.666	20.314	20.752	19.158
0954 Shipboard EW Improvements	38.074	24.525	23.008	10.568	17.630	19.257	19.672	18.057
2190/2441/Nulka Decoy/Nulka Shipsets	7.314	3.894	1.004	1.016	1.036	1.057	1.080	1.101
9243 / Radar Tiles	2.701	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9244 / Surface Ship EW R&D Improvements (SBIR Phase III)		10.107						
9591/ Shipboard Leverage EW System		3.462						
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: 0954 - The Surface Electronic Warfare Improvement Program (SEWIP) is an evolutionary acquisition and spiral development program of Block upgrades to the AN/SLQ-32(V) family of passive and active shipboard electronic warfare (EW) systems. It replaced the AN/SLY-2(V) Advanced Integrated Electronic Warfare System (AIEWS) program. SEWIP will provide necessary EW capabilities and will incorporate technology advances as they become available to provide incremental upgrades in capability and improvements in performance. Continuous technology reviews will be in progress, potential alternate element and component surveys performed, and ongoing Cost As an Independent Variable (CAIV) efforts will be employed throughout to aid decision-making. Threat system technologies will be examined and compared against program planning to achieve best capability within available resources. The capabilities and subsystems included in Blocks can change as technology matures for integration. 2190/2441 - The Offboard Active Decoy (NULKA) is a joint cooperative program between the United States and Australia that developed an active offboard decoy that utilizes a broadband radio frequency repeater mounted atop a hovering rocket. NULKA is designed to counter a wide variety of present and future radar guided Anti-Ship Missiles (ASMs) by radiating a large radar cross section while flying a ship-like trajectory. The United States developed the electronic payload and fire control system, while Australia developed the hovering rocket. Currently NULKA is undergoing a P3I program to integrate the Mk 53 Decoy Launching System with Ship Self Defense System (SSDS) and the ship combat systems, maintain electromagnetic compatibility with shipboard emitters, integrate with future electronic warfare system upgrades, and to upgrade the Inertial Measurement Unit (IMU). 9243 - OUTLAW BANDIT is a ship signature reduction program, applying radar absorbent material (RAM) to selected areas of a ship's equipment, superstructure, and weapons systems. Passive Counter Measures System (PCMS) enhances ship survivability when used in conjunction with AN/SLQ-32 AND Decoys. 9244 - FY05 Congressional Add of \$10.2M for Surface ship electronic warfare (EW) R&D Improvements (Note: only for Surface Ship EW SBIR Phase III improvements.) 9591 - FY05 Congressional Add of \$3.5M for Shipboard Leveraged Electronic Warfare System (SLEWS)								

R-1 SHOPPING LIST - Item No.

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 1 of 25)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)				PROJECT NUMBER AND NAME 0954/9244/9591 Shipboard EW Improvements			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	38.074	38.094	23.008	10.568	17.630	19.257	19.672	18.057
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Surface Electronic Warfare Improvement Program (SEWIP) is an evolutionary acquisition and spiral development program of Block upgrades to the AN/SLQ-32(V) family of passive and active shipboard electronic warfare (EW) systems. It replaced the AN/SLY-2(V) Advanced Integrated Electronic Warfare System (AIEWS) program. SEWIP will provide necessary EW capabilities and will incorporate technology advances as they become available to provide incremental upgrades in capability and improvements in performance. Continuous technology reviews will be in progress, potential alternate element and component surveys performed, and ongoing Cost As an Independent Variable (CAIV) efforts will be employed throughout to aid decision-making. Threat system technologies will be examined and compared against program planning to achieve best capability within available resources. The capabilities and subsystems included in Blocks can change as technology matures for integration.

The initial SEWIP plan (Block 1, ACAT II) is segmented into 3 sub-blocks: 1A, 1B and 1C. Block 1A is for SLQ-32 sustainment by updating the display console and display/pulse-processing computers, allowing the system to more quickly identify threats and better display the information to the operator. The new display console and processing computers will partially open the system architecture to support subsequent block upgrades. Block 1A began at-sea testing in FY04 and to go into production in FY05. Block 1B currently adds Specific Emitter Identification (SEI) via integration of stand-alone Small Ship Electronic Support Measures (SS ESM), and display of combat systems tracks to the operator to improve threat correlation and situational awareness. Block 1B could add other capabilities if they mature in time. Block 1B is planned to begin at-sea testing in FY05. Block 1C currently will add initial High Gain High Sensitivity (HGHS) capability to SEI, and will allow the operator to launch both Nulka and passive on combat systems tracks, thereby improving effectiveness. Block 1C is planned to begin at-sea testing before the end of the FYDP.

The next Block upgrade (Block 2) will lay the groundwork for more significant improvements; including a major receiver upgrade to improve system sensitivity, provide precision measurement of Angle of Arrival, and improve Electromagnetic Interference (EMI) immunity. Block 3 will significantly improve the Electronic Attack (EA) capabilities of the SLQ-32; Block 4 will add an Infrared (IR) jamming capability.

FY04 funding includes 2 Congressional Adds: \$2M for Shipboard EW Protect, and \$11.9M for Surface Ship EW SBIR Phase III Research and Development improvements.

FY05 funding includes 2 Congressional Adds: \$3.5M for Shipboard Leverage Electronic Warfare System (SLEWS), and \$10.2M for Surface Ship EW SBIR Phase III Research and Development improvements.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)	PROJECT NUMBER AND NAME 0954/9244/9591 Shipboard EW Improvements

B. Accomplishments/Planned Program

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.334	1.400	0.805	0.370
RDT&E Articles Quantity				

The Surface Electronic Warfare Improvement Program (SEWIP) is an evolutionary acquisition and spiral development program of Block upgrades to the AN/SLQ-32(V) family of passive and active shipboard electronic warfare (EW) systems. The program will incorporate technology advances as they become available to provide incremental upgrades in capability and improvements in performance. Continuous technology reviews, potential alternate element and component surveys, and ongoing Cost As an Independent Variable (CAIV) efforts will be used throughout to aid decision-making. Threat system technologies will be examined and compared against program planning to achieve best capability within available resources to rapidly deliver affordable, sustainable capability to the warfighter that meets the warfighter's needs. This includes funding studies and analysis of other service capabilities and future capabilities for interoperability.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	10.914	4.633	0.000	0.000
RDT&E Articles Quantity				

Block 1A includes development of Electronic Support Enhancements (ESE) and Improved Control and Display (ICAD). This enhanced functionality increases Anti-Ship Missile Defense (ASMD) capabilities, allowed for proper identification of Anti Ship Missile threats, and increased the system's ability to handle the significantly increased emitter density. ICAD will provide the tools necessary to significantly improve tactical performance and battle readiness by processing information rapidly through predetermined automation routines. Integrate and test ESE, ICAD, and Block 1A. Conduct preliminary and operational assessment at-sea for integrated ESE and ICAD (Block 1A) Transition ESE and ICAD to production. Prepare for a limited rate production decision for ICAD. Lab/Field activity support included.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	13.333	14.792	10.123	5.892
RDT&E Articles Quantity				

The Systems Integrator contract is currently performing system level technical design, technical coordination, integration, and testing of SEWIP. The System Integrator is responsible for developing the overall technical roadmap for SEWIP, including the detailed technical plan for each block upgrade. The System Integrator will perform any required CAIV analysis, develop overall technical performance requirements, perform system level functional allocations, coordinate the execution of the block upgrades. The System Integrator is responsible for the overall integration of the portions of the system and performing element testing as well as system level performance testing.

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EXHIBIT R-2a. RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)	PROJECT NUMBER AND NAME 0954/9244/9591 Shipboard EW Improvements

B. Accomplishments/Planned Program (Cont.)

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	7.220	10.728	4.817	0.000
RDT&E Articles Quantity				

Block 1B development currently includes Specific Emitter Identification (SEI) by integrating the existing Small Ship ESM (SSES) system with SEWIP and the incorporation of High Gain High Sensitivity (HGHS-F1) capability . It also includes the transfer of CS tracks to the EW system to enhance the display of combat systems tracks in order to improve classification and situational awareness. Block 1B could add other capabilities if they mature in time. Task include the Integration and test Block 1B efforts. Transition Block 1B to production. Lab/Field activity support included. Development for related CS track data usage, RDDDL,HGHS, DPU/DTU, ICAD Upgrades and LAMPS Interface Upgrades.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.051	0.946	5.998	3.725
RDT&E Articles Quantity				

Block 1C currently includes the incorporation of High Gain High Sensitivity (HGHS-Full) capability, the ability for the operator to launch Nulka on combat systems tracks, the adaptation of SEWIP to work on carriers, and the modifications of ICAD to operate with on-board active countermeasures. RDDDL development, ILS engineering, CONOPS and related engineering development are a part of Block 1C. ICAD Phase II, requirements definition , specifications, and development, DPU/DTU upgrades for V4 ships. These efforts include CONOPS development, specification development, contracts preparation, testing and materials., DDI refresh, PW measurement enhancements. LAMPS interface upgrade concept development will be included. IRS/IDD development, SW development and factory testing are also included. Lab/Field activity support included.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	2.222	2.095	1.265	0.581
RDT&E Articles Quantity				

Program office and Systems Engineering of SEWIP program includes contract management, field activity management, risk management, SBIR employment, M&S, cost estimates, development of program requirements, acquisition, logistics and other documentation (ORD & Capabilities Documents, TEMP, AP, SAMP, CMP, ILSP, NTSP,PLCCE, APB, etc) to meet statutory and regulatory requirements.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	2.000	3.500	0.000	0.000
RDT&E Articles Quantity				

Receiver Replacement Studies, which includes the Shipboard Leverage Electronic Warfare System.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																								
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)	PROJECT NUMBER AND NAME 0954/9244/9591 Shipboard EW Improvements																																																									
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;">Funding:</th> <th style="text-align: right; width: 15%;">FY 2004</th> <th style="text-align: right; width: 15%;">FY 2005</th> <th style="text-align: right; width: 15%;">FY 2006</th> <th style="text-align: right; width: 15%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>FY05 President's Budget</td> <td style="text-align: right;">43.637</td> <td style="text-align: right;">25.784</td> <td style="text-align: right;">14.526</td> <td style="text-align: right;">10.554</td> </tr> <tr> <td>FY06 President's Budget</td> <td style="text-align: right;">38.074</td> <td style="text-align: right;">38.094</td> <td style="text-align: right;">23.008</td> <td style="text-align: right;">10.568</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-5.563</td> <td style="text-align: right; border-top: 1px solid black;">12.310</td> <td style="text-align: right; border-top: 1px solid black;">8.482</td> <td style="text-align: right; border-top: 1px solid black;">0.014</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> SBIR/STTR Transfer</td> <td style="text-align: right;">-0.844</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Inflation</td> <td style="text-align: right;">-0.040</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Execution Realignments</td> <td style="text-align: right;">-4.603</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Cancelled Accounts Liability</td> <td style="text-align: right;">-0.076</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Various Program Adjustments</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">12.310</td> <td style="text-align: right;">8.482</td> <td style="text-align: right;">0.014</td> </tr> <tr> <td>Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">-5.563</td> <td style="text-align: right; border-top: 1px solid black;">12.310</td> <td style="text-align: right; border-top: 1px solid black;">8.482</td> <td style="text-align: right; border-top: 1px solid black;">0.014</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule:</p> <p style="margin-left: 20px;">See attached schedule.</p> <p style="margin-top: 20px;">Technical:</p> <p style="margin-left: 20px;">See attached Schedule</p>					Funding:	FY 2004	FY 2005	FY 2006	FY 2007	FY05 President's Budget	43.637	25.784	14.526	10.554	FY06 President's Budget	38.074	38.094	23.008	10.568	Total Adjustments	-5.563	12.310	8.482	0.014	Summary of Adjustments					SBIR/STTR Transfer	-0.844				Inflation	-0.040				Execution Realignments	-4.603				Cancelled Accounts Liability	-0.076				Various Program Adjustments	0.000	12.310	8.482	0.014	Subtotal	-5.563	12.310	8.482	0.014
Funding:	FY 2004	FY 2005	FY 2006	FY 2007																																																							
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R-1 SHOPPING LIST - Item No. 128

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)				PROJECT NUMBER AND NAME 0954/9244/9591 Shipboard EW Improvements			

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Complete	Cost
OPN BA-2 AN/SLQ-32(V) (2312)	21.425	18.614	25.053	31.605	32.721	32.392	36.147	35.256	TBD	TBD
O&M,N AN/SLQ-32 (12CR0/1C2C)	1.384	1.413	1.432	1.473	1.507	1.55	1.596	1.644	TBD	TBD
O&M,N AN/SLQ-32 (14DX0/1D4D)	7.460	8.376	4.787	4.423	3.95	4.268	4.432	4.554	TBD	TBD

E. ACQUISITION STRATEGY:

The Surface EW Improvement Program (SEWIP) will accomplish Block upgrades based on integrating technology advances and adding functional capabilities in an incremental fashion. Each Block and sub-Block will be developed and contracted in an individual yet coordinated and overlapping fashion. Blocks will be fielded on ships to meet battle group schedule requirements and make best use of available improvements and resources.

F. MAJOR PERFORMERS:

Northrop Grumman PRB (Compete) Goleta, CA - ESE development contract
 GD-AIS Fairfax, VA - System Integrator development contract
 Lockheed Martin/Eagan MN - Q-70 console modifications
 Naval Research Laboratory DC - Technical support for development and testing efforts
 Naval Surface Warfare Center Dahlgren VA - Scenario/Library Testing of ESE, support for all DT/OT events
 Naval Surface Warfare Center Crane IN - Lead for HW/SW ESE development, support for all DT/OT events, system engineering support for ESE and ICAD

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005					
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5				PROGRAM ELEMENT 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)				PROJECT NUMBER AND NAME 0954/9244/9591 Shipboard EW Improvements							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Ancillary Hardware Development			151.420										151.420		
ESE Development	SS / FFP	Northrop Grumman	4.618	0.383	03/04							TBD	TBD	TBD	
ESE Development	SS / CPFF	Northrop Grumman		0.471	11/03							TBD	TBD	TBD	
ICAD Development-SBIR Phase III	SS / CPAF	GD-AIS	8.199	2.737	11/03							TBD	TBD	TBD	
System Integrator	SS / CPAF	GD-AIS	8.928	13.333	02/04	14.792	11/04	10.123	11/05	5.892	11/06	TBD	TBD	TBD	
SSESMS rehost/HGHS	WX	NRL	1.995	3.337	04/04	4.050						TBD	TBD	N/A	
Q-70 Mods	SS / CPFF	LM-EAGAN	0.813	1.278	06/04							TBD	TBD	TBD	
Subtotal Product Development			175.973	21.539		18.842		10.123		5.892		TBD	TBD		
Remarks:															
Integrated Logistics Support	WX	NSWC Crane, DD, NRL	1.115	1.128	11/03	1.778	11/04	1.500	11/05	0.894	11/06	TBD	TBD	N/A	
Government Engineering Support	WX	NSWC Crane, DD, NRL	3.505	6.686	11/03	7.339	11/04	5.500	11/05	1.741	11/05	TBD	TBD	N/A	
Tech Eng Svcs, Studies & Analyses	WX, MP	Crane, DD, NRL, BAE	1.949	0.935	11/03	3.233	11/04	0.895	11/05	0.595	11/06	TBD	TBD	N/A	
Miscellaneous	WX	NSWC Crane, DD, NRL													
Subtotal Support			6.569	8.749		12.350		7.895		3.230		TBD	TBD		
Remarks:															

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 7 of 25)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME								
RDT&E, N / BA-5		0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)				0954/9244/9591 Shipboard EW Improvements								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various	8.958										8.958	
Block 1A Test Planning/T&E Events	WX	NSWC Crane, DD, NRL	4.575	4.882	11/03	2.186	01/05					TBD	TBD	
Block 1B Test Planning/T&E Events	WX	NSWC Crane, DD, NRL	0.614	0.317	11/03	2.302	01/05	2.900	11/05			TBD	TBD	
Block 1C Test Planning/T&E Events										0.200	11/06	TBD	TBD	
												TBD	TBD	
												TBD	TBD	
												TBD	TBD	
Subtotal T&E			14.147	5.199		4.488		2.900		0.200		TBD	TBD	
Remarks:														
Program Management Support	FFP	SEAPORT	22.426	0.429	05/04	1.143	11/04	0.890	11/05	0.595	11/06	TBD	TBD	
Program Management Support	WX	NSWC/Crane & DD, NRL	3.218	2.058	06/04	1.171	11/04	1.100	11/05	0.551	11/06	TBD	TBD	
Travel			0.105	0.100		0.100		0.100		0.100		TBD	TBD	
Subtotal Management			25.749	2.587		2.414		2.090		1.246		TBD	TBD	
Remarks:														
Total Cost			222.438	38.074		38.094		23.008		10.568		CONT	CONT	
Remarks:														

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME		
RDT&E, N / BA-5		0604757N SHIP SELF DEFENSE				0954/9244/9591 Shipboard EW Improvement		
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
RDC Approval	4Q							
Stand Alone ESE Development/Integration	1Q-2Q							
ICAD (Integrated ESE & Q-70) Development/Integration	1Q-3Q							
AN/SSX-1 RDC (Stand Alone SEI) Lab Development Transition	1Q-4Q							
SEI (Federated SEI) Development/Integration	1Q-4Q	1Q						
ICAD Improvements (Mission Planning, Display Updates, Embedded Training) Development/Integration	1Q-4Q	1Q-4Q						
HGHS Limited Development/Integration	1Q-4Q	1Q-4Q						
NCWES (Phase I) Development/Integration		1Q-4Q						
ESE Developmental Testing (DT-D2B)	1Q							
Developmental Test Readiness Review (ESE)	2Q							
ESE Developmental Testing (DT-D3)	2Q							
Developmental Test Readiness Review (ICAD)	2Q							
ESE Operational Test Readiness Review	3Q							
ESE Operational Test (OA) (OT-D1)	3Q							
Stand Alone-ESE Milestone C LRIP		2Q						
ICAD/Q-70 Milestone C LRIP		3Q						
ICAD Operational Test Readiness Review	4Q							
ICAD Operational Test (DT-D4)	4Q	1Q-2Q						
Operational Test Readiness Review (ICAD)		2Q						
ICAD Operational Testing (OA)		2Q						
Operational Test Readiness Review (Block 1A)		3Q						
Block 1A TECHEVAL/OPEVAL	3Q							
ICAD/ESE for V3/4/5 & other ICAD Improvements Development/Integration		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		
NCWES (Phase II) Development/Integration		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q	
MH-60R Development/Integration		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-3Q	
HGHS (FULL) Development/Integration			3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q
Block 1A FRP		4Q	1Q					
Developmental Test Readiness Review (Block 1B)		4Q						
Block 1B Developmental Test (DT-B1)		4Q	1Q					
Developmental Test Readiness Review (Block 1B)			1Q-2Q					
Block 1B Developmental Test (DT-B2)			2Q					
Operational Test Readiness Review (Block 1B)			2Q-3Q					
Block 1B Operational Test (OA) (OT-B1)			3Q					
Block 1B FRP			4Q	1Q				

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Exhibit R-2, RD TEN Budget Item Justification
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Exhibit R-2, RD TEN Budget Item Justification
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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)				PROJECT NUMBER AND NAME 9243/Radar Tiles			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	2.701	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(u) MISSION DESCRIPTION AND BUDGET ITEM JUTIFICATION: OUTLAW BANDIT is a ship signature reduction program, applying radar absorbent material (RAM) to selected areas of a ship's equipment, superstructure, and weapons systems. PCMS enhances ship survivability when used in conjunction with AN/SLQ-32 AND Decoys.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KIL	PROJECT NUMBER AND NAME 9243/Radar Tiles																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY05</th><th style="width: 15%;">FY06</th><th style="width: 15%;">FY07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">2.701</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; height: 60px; margin-top: 10px; padding: 5px;">Develop an advanced radar absorbing material</div>						FY 04	FY05	FY06	FY07	Accomplishments/Effort/Subtotal Cost	2.701	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY05	FY06	FY07															
Accomplishments/Effort/Subtotal Cost	2.701	0.000	0.000	0.000															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY05</th><th style="width: 15%;">FY06</th><th style="width: 15%;">FY07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td></td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; height: 60px; margin-top: 10px;"></div>						FY 04	FY05	FY06	FY07	Accomplishments/Effort/Subtotal Cost					RDT&E Articles Quantity				
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Accomplishments/Effort/Subtotal Cost																			
RDT&E Articles Quantity																			
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	FY 04	FY05	FY06	FY07															
Accomplishments/Effort/Subtotal Cost																			
RDT&E Articles Quantity																			

R-1 SHOPPING LIST - Item No. 128

UNCLASSIFIED

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)	PROJECT NUMBER AND NAME 9243 RADAR TILES

C. PROGRAM CHANGE SUMMARY:

Funding:	FY2004	FY2005	FY2005
Previous President's Budget (FY05 PB controls):	2.769	0.000	0.000
Current President's Budget (PB 06/07 controls):	2.701	0.000	0.000
Total Adjustments	-0.068	0.000	0.000
Summary of Adjustments			
Inflation	-0.003		
SBIR (9 APR 04)	-0.065		
Subtotal			
	-0.068	0.000	0.000

Schedule:
Not Applicable.

Technical:
Not Applicable.

R-1 SHOPPING LIST - Item No. 128

UNCLASSIFIED

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 14 of 25)

R-1 SHOPPING LIST - Item No. 128

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE&E, N / BA-5			0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL			9243/Radar Tiles						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY04 Cost	FY04 Award Date	FY05 Cost	FY05 Award Date	FY06 Cost	FY06 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Hardware Development Inc 1											0.000	
Ancillary Hardware Development											0.000	
Software Development											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	WR/RCP	VARIOUS		2.469							2.469	
Combat Systems Modifications											0.000	
Miscellaneous											0.000	
											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	2.469		0.000		0.000		0.000	3,251.000	
Development Support											0.000	
Software Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Engineering Services											0.000	
Miscellaneous											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

R-1 SHOPPING LIST - Item No. 128

UNCLASSIFIED

Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 15 of 25)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)									DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-5			PROGRAM ELEMENT 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL			PROJECT NUMBER AND NAME 9243/Radar Tiles						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Test Planning/T&E Events											0.000	
Miscellaneous											0.000	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support	CPFF	Anteon		0.100						0.000	0.100	0.070
Government Engineering Support	WR	NSWC/PHD		0.132							0.132	
Program Management Support											0.000	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.232		0.000		0.000		0.000	0.232	
Remarks:												
Total Cost			0.000	2.701		0.000		0.000		0.000	2.701	
Remarks:												

R-1 SHOPPING LIST - Item No. 128

UNCLASSIFIED

Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 16 of 25)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)				PROJECT NUMBER AND NAME 2190/2441/Nulka Decoy			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	7.314	3.894	1.004	1.016	1.036	1.057	1.080	1.101
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Offboard Active Decoy (NULKA) is a joint cooperative program between the United States and Australia that developed an active offboard decoy that utilizes a broadband radio frequency repeater mounted atop a hovering rocket. NULKA is designed to counter a wide variety of present and future radar guided Anti-Ship Missiles (ASMs) by radiating a large radar cross section while flying a ship-like trajectory. The United States developed the electronic payload and fire control system, while Australia developed the hovering rocket. Currently NULKA is undergoing a P3I program to integrate the Mk 53 Decoy Launching System with Ship Self Defense System (SSDS) and the ship combat systems, maintain electromagnetic compatibility with shipboard emitters, integrate with future electronic warfare system upgrades, and to upgrade the Inertial Measurement Unit (IMU).

FY04 funding includes \$4.9 Congressional Add for Anti-Tamper, Dual RF, Inertial Measure Unit (IMU), EMC, Effectiveness Study, Flyable Cartridge and Engineering Studies.

R-1 SHOPPING LIST - Item N 128

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 17 of 25)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KIL	PROJECT NUMBER AND NAME 2190/2441/Nulka Decoy																	
B. Accomplishments/Planned Program																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.594	0.671	0.000	0.339															
RDT&E Articles Quantity																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	1.044	0.949	0.000	0.338															
RDT&E Articles Quantity																			

R-1 SHOPPING LIST - Item No. 128

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KIL	PROJECT NUMBER AND NAME 2190/2441/Nulka Decoy		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	3.320	1.774	1.004	0.339
RDT&E Articles Quantity				
<div>NULKA decoy subsystem/integration and improvements to include Dual RF, EMC, Effectiveness Studies, Flyable Cartridge, Engineering Studies and Fly Out Tactics.</div>				

R-1 SHOPPING LIST - Item No. 128

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																									
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)	PROJECT NUMBER AND NAME 2190/2441/Nulka Decoy																																										
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	FY 2004	FY 2005	FY 2006	FY2007																																								
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R-1 SHOPPING LIST - Item No. 128

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604757N SHIP SELF DEFENSE			PROJECT NUMBER AND NAME 2190/2441 NULKA DECOY					
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY2011</u>	<u>To Complete</u>	<u>Total Cost</u>
OPN: Anti-Ship Missile Decoy System/5530 (In Millions)	50.264	54.518	40.436	57.102	58.524	60.18	61.574	62.535	Continuing	TBD
OMN: 14DX0, 1D4D	2.147	3.142	1.795	1.678	1.579	1.660	1.723	1.769	Continuing	TBD
E. ACQUISITION STRATEGY:										
Not Applicable										
F. MAJOR PERFORMERS:										
NSWC Crane , IN Product Development										
NSWC Dahlgren, VA Product Development										
NRL Washington, DC Product Development										
Sippican Inc, Marion, MA Product Development										
BAeA, Australia Product Development										

R-1 SHOPPING LIST - Item No. 128

UNCLASSIFIED

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005					
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5				PROGRAM ELEMENT 0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)						PROJECT NUMBER AND NAME 2190/2441/Nulka Decoy					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Primary Hardware Development	RC	NSWC Crane, IN	3.000										3.000		
	RX	Sippican	1.782	2.450	07/04	0.987	01/05						5.219		
	MIPR	BAES	0.700	2.863	05/04	1.380	11/04			0.295	11/05	Continuing	Continuing		
Ship Suitability															
Systems Engineering	WX	NRL	0.485	0.073	11/03	0.225	10/04	0.502	10/04	0.281	10/05	Continuing	Continuing		
Systems Engineering	WX	NWAD China Lake	0.050	0.020	10/03	0.050	11/04	0.442	10/04	0.050	10/05	Continuing	Continuing		
MK 53 Sys Engineering Change	FFP	Sechan		0.150	08/04										
Systems Engineering	WX	Indian Head		0.044	09/04										
Subtotal Product Development			6.017	5.600		2.642		0.944		0.626		Continuing	Continuing		
Remarks:															
Development Support	WX	NRL	1.214	0.996	11/03	0.622	10/04			0.165	10/05	Continuing	Continuing		
Software Development	WX	NSWC Dahlgren	1.819	0.640	11/03	0.573	10/04			0.165	10/05	Continuing	Continuing		
Training Development															
Integrated Logistics Support															
Configuration Management															
Technical Data															
GFE															
Award Fees															
Subtotal Support			3.033	1.636		1.195		0.000		0.330		Continuing	Continuing		

R-1 SHOPPING LIST - Item No. 128

UNCLASSIFIED

Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 22 of 25)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)									DATE: February 2005					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT						PROJECT NUMBER AND NAME					
RDT&E, N / BA-5			0604757N SHIP SELF DEFENSE (ENGAGE: SOFT KILL)						2190/2441/Nulka Decoy					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation														
Operational Test & Evaluation														
Live Fire Test & Evaluation														
Test Assets														
Tooling														
GFE														
Award Fees														
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
Contractor Engineering Support														
Government Engineering Support														
Program Management Support	cc/cpff	Anteon	0.294				11/04					Continuing	Continuing	
Travel			0.233	0.078	various	0.057	various	0.060		0.060		Continuing	Continuing	
Labor (Research Personnel)														
SBIR Assessment														
Subtotal Management			0.527	0.078		0.057		0.060		0.060		Continuing	Continuing	
Remarks:														
Total Cost			9.577	7.314		3.894		1.004		1.016		Continuing	Continuing	
Remarks:														

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:															
APPROPRIATION/BUDGET #PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME																											
RDT&E, N / BA-5												0604757N SHIP SELF DEFENSE												2190/2441 NULKA DECOY															
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011										
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4											
Acquisition Milestones			▲	FFG Install Certification																																			
Production Milestones				EMC Decoy Production / Backfit																		▲	DLP v. 6.4					▲	LHA (R) Install Cert										
				▲																																			
Test & Evaluation Milestones																						▲	IMU																
Development Test		▲	DT-IIID										▲	LPD 17/18 CSSQT								▲	Land Based Test					▲	IMU AT-SEA Test										
Operational Test													▲	LSD 41/50			▲	USCG Deepwater																					
Deliveries	▲																																						

R-1 SHOPPING LIST - Item No.

128

UNCLASSIFIED

Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 24 of 25)

UNCLASSIFIED

CLASSIFICATION:

[illegible]

R-1 SHOPPING LIST - Item No. 128

UNCLASSIFIED

Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 25 of 25)

UNCLASSIFIED

FY 2006 PRESIDENT'S BUDGET REVIEW

DATE: February 2005

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604771N
 PROGRAM ELEMENT TITLE: Medical Development

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 2004 ESTIMATE	FY 2005 ESTIMATE	FY 2006 ESTIMATE	FY 2007 ESTIMATE	FY 2008 ESTIMATE	FY 2009 ESTIMATE	FY 2010 ESTIMATE	FY 2011 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
Total PE Cost	42,010	50,791	7,202	7,585	7,667	7,736	7,779	7,819	Continue	Continue
0933 Medical / Dental Equipment Development										
	5,320	6,871	7,202	7,585	7,667	7,736	7,799	7,819	Continue	Continue
2333 Rural Health										
	6,695	0	0	0	0	0	0	0	0	6,695
2334 Bone Marrow Research										
	2	0	0	0	0	0	0	0	0	2
2795 Coastal Cancer Control										
	3,441	3,464	0	0	0	0	0	0	0	6,905
2836 Vectored Vaccine Research Program										
	1,478	1,236	0	0	0	0	0	0	0	2,714

R-1 Line Item 130

Budget Item Justification
 (Exhibit R-2, Page 1 of 12)

UNCLASSIFIED

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FY 2006 PRESIDENT'S BUDGET REVIEW

DATE: February 2005

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604771N
 PROGRAM ELEMENT TITLE: Medical Development

2896										
Military Dental Research										
	1,154	3,369	0	0	0	0	0	0	0	4,523
9002	Minimally Invasive Surgical Technology Institute									
	986	2,971	0	0	0	0	0	0	0	3,957
9003	Biomedical Research Imaging - COH National Medical Center									
	2,958	2,475	0	0	0	0	0	0	0	5,433
9249	Low Cost Retractable Needle and Safety Syringe									
	977	0	0	0	0	0	0	0	0	977
9251	Medical Procedures Reference Tool (MPRT)									
	2,499	3,369	0	0	0	0	0	0	0	5,868
9396	Applied Cognitive Science Technologies									
	975	0	0	0	0	0	0	0	0	975

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Budget Item Justification
 (Exhibit R-2, Page 2 of 12)

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FY 2006 PRESIDENT'S BUDGET REVIEW

DATE: February 2005

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604771N
 PROGRAM ELEMENT TITLE: Medical Development

9397 Discovery, Early, Detection, Evaluation, Treatment and Prevention										
	5,853	6,924	0	0	0	0	0	0	0	12,777
9398 Distress Streamer Signaling System										
	2,872	2,969	0	0	0	0	0	0	0	5,841
9399 Health Query and Analysis System										
	1,962	3,367	0	0	0	0	0	0	0	5,329
9401 Hemoglobin-Based Oxygen Carrier										
	4,838	0	0	0	0	0	0	0	0	4,838
9592 Acceleration of Clinical Trial for Hemostatic Therapy										
	0	1,484	0	0	0	0	0	0	0	1,484
9593 Multivalent Dengue Vaccine Program										
	0	1,981	0	0	0	0	0	0	0	1,981

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Budget Item Justification
 (Exhibit R-2, Page 3 of 12)

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FY 2006 PRESIDENT'S BUDGET REVIEW

DATE: February 2005

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604771N
 PROGRAM ELEMENT TITLE: Medical Development

9594 Rare Blood Program									
0	990	0	0	0	0	0	0	0	990
9595 Room Elevated Temperature Stable Hemoglobin based									
0	6,936	0	0	0	0	0	0	0	6,936
9596 Somatic Cell Processing Program (Diabetes research)									
0	1,384	0	0	0	0	0	0	0	1,384
Total									
42,010	50,791	7,202	7,585	7,667	7,736	7,779	7,819	Continue	Continue

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Budget Item Justification
 (Exhibit R-2, Page 4 of 12)

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FY 2006 PRESIDENT'S BUDGET REVIEW

DATE: February 2005

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604771N
PROGRAM ELEMENT TITLE: Medical Development

PROGRAM CHANGE FOR TOTAL PE:

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The purpose of this item is to develop biomedical equipment and related techniques to reduce morbidity, to enhance the logistic feasibility of modern medical care for combat casualties, to sustain casualties for evacuation to fixed medical facilities for definitive care, and to ensure that personnel are medically qualified for military duty. Each work unit undertaken in this project has a documented, authenticated military requirement. Efforts are justified based upon military payoff and cost benefit. There is a strong potential for dual use, technology transfer, and biotechnology firms / industry participation in the projects.

	<u>FY2004</u>	<u>FY2005</u>	<u>FY2006</u>	<u>FY2007</u>	<u>FY2008</u>	<u>FY 2009</u>	<u>FY2010</u>	<u>FY 2011</u>
(U) FY 2005 President's Budget	5,593	6,101	6,281	7,584	7,737	7,893	8,052	8,214
(U) Adjustments from PRESBUDG:								
2333 - Rural Health	6,800							
2334 - Bone Marrow Research	316							
2795 - Coastal Cancer Center	3,500	3,500						
2836 - Vectored Vaccine Research	1,500	1,250						
2896 - Military Dental Research	1,200	3,400						
9002 - Minimally Invasive Surgical Technology	1,000	3,000						
9003 - Biomedical Research Imaging - COH Center	3,000	2,500						
9005- Community Hospital Telehealth Consortium		1,000						
9249 - Low Cost Retractable Needle and Safety Syringe	1,000							
9251 - Medical Procedures Reference Tool (MPRT)	2,550	3,400						
9396 - Applied Cognitive Science Technologies	1,000							
9397 - Discovery, Early Detection, Evaluation	5,950	7,000						
9398 - Distress Streamer Signaling System	2,975	3,000						
9399 - Health Query and Analysis System	2,000	3,400						
9401 - Hemoglobin-Based Oxygen Carrier	5,000							
SEC 8094	-181							
SEC 8126	-573							

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Budget Item Justification
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FY 2006 PRESIDENT'S BUDGET REVIEW

DATE: February 2005

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604771N

PROGRAM ELEMENT TITLE: Medical Development

Non-Pay Inflation	-36							
	<u>FY2004</u>	<u>FY2005</u>	<u>FY2006</u>	<u>FY2007</u>	<u>FY2008</u>	<u>FY 2009</u>	<u>FY2010</u>	<u>FY 2011</u>
SBIR	-584							
9592 – Clinical Trial for Hemostatic Therapy		1,500						
9593 – Multivalent Dengue Vaccine Program		2,000						
9594 Rare Blood Program		1,000						
9595 Temperature Stable Hemoglobin		7,000						
9596 Somatic Cell Processing Program		1,400						
Program Adjustments		339	921	1	-70	-157	-253	-375
(U) FY 2006 President's Budget Submission	42,010	50,790	7,202	7,585	7,667	7,736	7,799	7,839

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Budget Item Justification
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FY 2006 PRESIDENT'S BUDGET REVIEW

DATE: February 2005

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604771N
 PROGRAM ELEMENT TITLE: Medical Development

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 2004 ESTIMATE	FY 2005 ESTIMATE	FY 2006 ESTIMATE	FY 2007 ESTIMATE	FY 2008 ESTIMATE	FY 2009 ESTIMATE	FY 2010 ESTIMATE	FY 2011 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
M0933 Medical / Dental Equipment Development	5,320	6,871	7,202	7,585	7,667	7,736	7,799	7,839	Continue	Continue

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The purpose of this item is to develop biomedical equipment and related techniques to reduce morbidity, to enhance the logistic feasibility of modern medical care for combat casualties, to sustain casualties for evacuation to fixed medical facilities for definitive care, and to ensure that personnel are medically qualified for military duty. Each work unit undertaken in this project has a documented, authenticated military requirement. Efforts are justified based upon military payoff and cost benefit. There is a strong potential for dual use, technology transfer, and biotechnology firms / industry participation in the projects.

(U) PROGRAM ACCOMPLISHMENT AND PLANS:

1. FY 2004 ACCOMPLISHMENTS:

- TREATMENT OF ACUTE ACOUSTIC TRAUMA: Initiated a prospective study to assess the efficacy of the nutritional supplement N-Acetylcystene in the treatment of acute acoustic trauma (aka - Reactor Trial).
- PREVENTION AND PROTECTION FROM ACUTE ACOUSTIC TRAUMA: Initiated a jointly funded US Navy, US Army and US Special Operations Command investigation of the nutritional supplement N-Acetylcystene (NAC) as an adjunct to hearing protection devices (HPD) for mitigating the risk of Noise-Induced Hearing Loss (NIHL) in soldiers exposed to military noise.
- ATMOSPHERIC CONTAMINANTS ON DISABLED SUBMARINES: Initiated an investigation to identify and quantify potential submarine atmosphere contaminants.

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Budget Item Justification
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FY 2006 PRESIDENT'S BUDGET REVIEW

DATE: February 2005

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604771N
PROGRAM ELEMENT TITLE: Medical Development

- EQUIPMENT TESTING IN HYPERBARIC CHAMBERS: Completed test and evaluation of medical equipment exposed to hyperbaric conditions for certification on the authorized for Navy use list (ANU).
- RESTORING EFFECTIVE SURVIVAL IN SHOCK: Initiated a Phase III clinical trials of a hemoglobin-based oxygen carrier for use in treatment of hemorrhagic shock.
- OPERATIVE FIELD DENTISTRY: Continuation of the analysis of components of the operative field dentistry ADAL (ADAL 662).
- FAR FORWARD DENTAL INTERIM RESTORATIVE MATERIAL: Completed an investigation of the effectiveness of interim restorative materials for possible use by non-dental medical personnel in the forward treatment of dental emergencies.
- SEA TRIALS OF NEW SUBMARINE WATCHSTANDING SCHEDULE: Sustained a delay in program completion initially expected in FY03, however, completed project in FY04. Data collected regarding effectiveness of revised underway watchstanding schedule on subjective submariner performance and the effect of the schedule on hormone levels that indicate normal circadian function.
- EFFICACY OF LED VERSUS LLLT IN THE TREATMENT OF ACUTE INVERSION ANKLE SPRAINS: Initiated an investigation of the efficacy of Light emitting diodes as a treatment of acute inversion ankle sprains in military personnel.
- REDUCED OXYGEN BREATHING DEVICE (ROBD): Initiated and completed the evaluation of a reduced oxygen breathing system for high altitude hypoxia training in Navy and Marine Corps flight simulators. System was previously developed in the 6.4 program.
- TACMEDCS: Completed the jointly funded (Navy and Marine Corps) field evaluation of a hand held medical status data recorder. System was previously developed in the 6.4 program.
- TACTILE SITUATIONAL AWARENESS SYSTEM (TSAS): Completed the extension of the TSAS system to rotary wing testing. The effort was expected to be completed in FY03, but sustained a delay as the potential transition sponsor requested additional studies.
- TEST AND EVALUATION OF THE SUBMARINE ATTRITION RISK SCALE: Continued data collection and test and evaluation of a psychological testing instrument to identify submarine school students who are at risk for separation from the Navy.

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Budget Item Justification
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FY 2006 PRESIDENT'S BUDGET REVIEW

DATE: February 2005

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604771N
PROGRAM ELEMENT TITLE: Medical Development

- SHIPBOARD MEDICAL ADMINISTRATIVE READINESS TRACKING TOOL (SMART): Initiated and completed assessment of the SMART program to aggregate individual and group medical readiness information into an automated view of current state and future state personnel medical readiness.
- VALIDATION OF FLEET MARINE FORCE MEDICAL RESOURCE REQUIREMENTS: Completed project to validate FMF medical resource requirements using the estimated supply program developed in the 6.4 program.
- IMPROVED SIMULATION OF MEDICAL CARE DELIVERY FOR NAVY OPERATIONS: Initiated and completed an improved model for simulating medical care delivery in far-forward operational environments.

2. FY 2005 PLAN:

- TEST AND EVALUATION OF THE SUBMARINE ATTRITION RISK SCALE: Complete data collection and test and evaluation of a psychological testing instrument to identify submarine school students who are at risk for separation from the Navy.
- EFFICACY OF LED VERSUS LLLT IN THE TREATMENT OF ACUTE INVERSION ANKLE SPRAINS: Completed the investigation of the efficacy of Light emitting diodes as a treatment of acute inversion ankle sprains in military personnel.
- OPERATIVE FIELD DENTISTRY: Complete Phase Two of the analysis of components of the operative field dentistry ADAL (ADAL 662).
- OPERATIVE FIELD DENTISTRY: Initiate the final Phase of the analysis of components of the operative field dentistry ADAL (ADAL 662) emphasizing recent operational experience.
- ATMOSPHERIC CONTAMINANTS ON DISABLED SUBMARINES: Complete the investigation of potential submarine atmosphere contaminants.
- TREATMENT OF ACUTE ACOUSTIC TRAUMA: Complete the prospective study to assess the efficacy of the nutritional supplement N-Acetylcysteine in the treatment of acute acoustic trauma (aka - Reactor Trial).
- RESTORING EFFECTIVE SURVIVAL IN SHOCK: Continue the Phase III clinical trials of a hemoglobin-based oxygen carrier for use in treatment of hemorrhagic shock.

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Budget Item Justification
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FY 2006 PRESIDENT'S BUDGET REVIEW

DATE: February 2005

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604771N
PROGRAM ELEMENT TITLE: Medical Development

- IMPROVED ADMINISTRATION OF ANTI-MOTION SICKNESS MEDICATIONS: Initiate evaluation of a fast acting nasal delivery system for medications to treat motion sickness in aviators.
 - BIODYNAMICS DATABASE ANALYSIS: Initiate analysis of high speed aviation crash simulation research conducted at the former Naval Biodynamics Laboratory from the 1950s-1980s for application to new high-speed, high-agility aircraft and vehicle development.
 - VALIDATION OF THE U.S. NAVY DENTAL CLASSIFICATION SYSTEM: Initiate analysis of the Navy dental classification system based on operational experience during the Operations Enduring Freedom and Iraqi Freedom.
 - TACMEDCS: Initiate a joint US Navy, US Marine Corps prototype refinement of the tactical medical coordination system focusing on ensuring compatibility with DoD IM/IT systems such as TRACES, CHCS II, and TMIP-J.
 - TRANSITION PROJECTS FROM THE OFFICE OF NAVAL RESEARCH SPONSORED MEDICAL R&D CORE CAPABILITY PROGRAM: Initiate the transition of a variety of Fleet endorsed, non-specific prototypes that were developed in the 6.1 and 6.2 Core Capability program at Office of Naval Research through FY04.
3. FY 2006 PLAN:
- RESTORING EFFECTIVE SURVIVAL IN SHOCK: Complete the Phase III clinical trials of a hemoglobin-based oxygen carrier for use in treatment of hemorrhagic shock.
 - OPERATIVE FIELD DENTISTRY: Complete the final Phase of the analysis of components of the operative field dentistry ADAL (ADAL 662) emphasizing recent operational experience.
 - IMPROVED ADMINISTRATION OF ANTI-MOTION SICKNESS MEDICATIONS: Complete the evaluation of a fast-acting nasal delivery system for medications to treat motion sickness in aviators.
 - BIODYNAMICS DATABASE ANALYSIS: Complete the analysis of high speed aviation crash simulation research conducted at the former Naval Biodynamics Laboratory from the 1950s-1980s for application to new high-speed, high-agility aircraft and vehicle development.
 - VALIDATION OF THE U.S. NAVY DENTAL CLASSIFICATION SYSTEM: Complete the analysis of the Navy dental classification system based on operational experience during the Operations Enduring Freedom and Iraqi Freedom.

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Budget Item Justification
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FY 2006 PRESIDENT'S BUDGET REVIEW

DATE: February 2005

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604771N
PROGRAM ELEMENT TITLE: Medical Development

- TACMEDCS: Complete the joint US Navy, US Marine Corps prototype refinement of the tactical medical coordination system focusing on ensuring compatibility with DoD IM/IT systems such as TRACES, CHCS II, and TMIP-J.
 - TRANSITION PROJECTS FROM THE WARFIGHTER PROTECTION FUTURE NAVAL CAPABILITY: Initiate the transition to the fleet or to a SYSCOM transition sponsor of a variety of non-specific prototypes that will begin to arise from the 6.3 Advanced Development Program at the Office of Naval Research through FY05.
 - TRANSITION PROJECTS FROM THE OFFICE OF NAVAL RESEARCH SPONSORED MEDICAL R&D CORE CAPABILITY PROGRAM: Initiate the transition of a variety of Fleet endorsed, non-specific prototypes that were developed in the 6.1 and 6.2 Core Capability program at Office of Naval Research through FY05.
4. FY 2007 PLAN:
- OPERATIVE FIELD DENTISTRY: Complete the final Phase of the analysis of components of the operative field dentistry ADAL (ADAL 662) emphasizing recent operational experience.
 - IMPROVED ADMINISTRATION OF ANTI-MOTION SICKNESS MEDICATIONS: Complete the evaluation of a fast-acting nasal delivery system for medications to treat motion sickness in aviators.
 - BIODYNAMICS DATABASE ANALYSIS: Complete the analysis of high speed aviation crash simulation research conducted at the former Naval Biodynamics Laboratory from the 1950s-1980s for application to new high-speed, high-agility aircraft and vehicle development.
 - TRANSITION PROJECTS FROM THE WARFIGHTER PROTECTION FUTURE NAVAL CAPABILITY: Initiate the transition to the fleet or to a SYSCOM transition sponsor of a variety of non-specific prototypes that will begin to arise from the 6.3 Advanced Development Program at the Office of Naval Research through FY05.
 - TRANSITION PROJECTS FROM THE OFFICE OF NAVAL RESEARCH SPONSORED MEDICAL R&D CORE CAPABILITY PROGRAM: Initiate the transition of a variety of Fleet endorsed, non-specific prototypes that were developed in the 6.1 and 6.2 Core Capability program at Office of Naval Research through FY05.

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Budget Item Justification
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FY 2006 PRESIDENT'S BUDGET REVIEW

DATE: February 2005

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604771N
PROGRAM ELEMENT TITLE: Medical Development

B. (U) PROGRAM CHANGE SUMMARY: See Program Change for PE

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) RELATED RDT&E:

(U) Program Elements:

0601153N, Defense Research Sciences
0602236N, Warfighter Sustainment Applied
0603729N Warfighter Protection Advanced Technology

D. (U) SCHEDULE PROFILE: Not applicable.

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Budget Item Justification
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CLASSIFICATION:								
EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /			BA 5		R-1 ITEM NOMENCLATURE 0604777N NAVIGATION/ID SYSTEMS			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	42.806	27.785	52.717	51.072	54.158	55.377	56.803	55.513
0253 Navigation and Electro-Optical Support	10.618	6.054	11.947	8.423	8.007	8.202	8.404	8.606
0676 Improved ID Development	1.479	1.789	2.797	3.839	4.000	4.117	4.235	4.354
1253 Combat ID System	10.229	5.631	14.485	13.614	14.135	14.507	17.003	17.410
0921 NAVSTAR GPS Equipment	20.480	14.311	23.488	25.196	28.016	28.551	27.161	25.143
Quantity of RDT&E Articles	28	1	37			8		
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>Reliable and secure Navigation and positive identification (ID) systems are essential elements of battle management in the naval environment. The Photonics Imaging System (0253) is a non-hull penetrating replacement for existing optical periscopes. The Photonics Imaging System exploits a wide portion of the electro-magnetic spectrum utilizing advanced Electro-Optic/thermal imaging; and communications intercept/Electronic Warfare Support (ES). The Combat Identification System (CIS) project (1253) for Mark XIIA, and Improved Identification Development (0676) for AN/UPX-29, covers the Navy lead of a MK XIIA Mode 5 upgrade to the existing Mark XII family of systems that is Joint and NATO interoperable. NATO participation is encouraged and performance data is exchanged to ensure the opportunity for interoperability with allied identification systems is maximized. In addition to distinguishing friend from foe for weapons employment, the Navy requires secure, jam resistant Identification Friend or Foe (IFF) systems for battle group air defense management and air traffic control. Identification is multifaceted and includes information received from several sensors (both cooperative and non-cooperative systems).</p> <p>NAVSTAR Global Positioning System (GPS), project (0921) is a space-based positioning, navigation and timing (PNT) system that provides authorized users with secure, worldwide, all weather, three dimensional position, velocity and precise time data. Navigation Sensor System Interface (NAVSSI) is a system that provides an integrated navigation message structure for network distribution to support combat, command and control, information and other mission critical capabilities. Navy Navigation Warfare (NAVWAR) is a major element of the GPS program. NAVWAR's mission is to provide continued access to GPS information in a denied environment. NAVWAR accomplishes this through the use of enhanced user equipment (UE). Enhanced UE consists of GPS antijam antennas and modernized receivers.</p>								

R-1 SHOPPING LIST - Item No. 131

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604777N NAVIGATION / ID SYSTEMS				PROJECT NUMBER AND NAME 0253 Navigation and Electro-Optical Support			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	10.618	6.054	11.947	8.423	8.007	8.202	8.404	8.606
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Navigation and Electro-Optical Support program develops Submarine Electro-Optical and imagery systems and equipment that will improve submarine imaging capability in the areas of: ship safety, Intelligence, Surveillance and Reconnaissance (ISR), and tactical control (contact management in the littorals). The Photonics Imaging System, mounted on the Universal Modular Mast will provide imaging capability for the VIRGINIA class submarine. The Photonics Imaging System design exploits a wide portion of the electro-magnetic spectrum through advanced E-O and thermal imaging and Electronic Warfare Support (ES)/Communications intercept. It will provide significant improvements in submarine stealth and infrared imaging capability. The non-hull penetrating design provides freedom in ship design and space savings for VIRGINIA CLASS and future submarines designs. The system was designed to satisfy Operational Requirement #365-87-94. Specific efforts include: (1) Photonics Imaging System On-Board Team Trainer Development (2) Photonics Imaging System At Sea Test And Evaluation (3) Photonics Imaging System Sensors and image processing improvements.</p> <p>The Department of the Navy established the Integrated Submarine Imaging System (ISIS) to rapidly field the Type 18 Periscope Patriot Rangefinder, Type 8IR Periscope systems, and integrate existing periscope imagery systems into a single system for installation on board submarines. The ISIS baseline includes the Type 18 Periscope Patriot Rangefinder, Type 8IR Periscope, and the Submarine Common Imaging System (SCIS) and supports high intensity operations in the littoral and provides the submarine force with the tactical imaging systems necessary to safely and effectively employ its surveillance and weapons capabilities. Specific efforts undertaken to meet the ISIS requirements are: (1) Type 18 Periscope Automated Range Finder development. (2) Submarine Common Imagery System Development. Development of capabilities common to ISIS and Photonics, include: Image stitching, high resolution imaging, automatic visual detection, tracking and classification capabilities.</p> <p>This program funds the development of Patriot Radar Range Finding for Photonics for SSGN and VIRGINIA Class Submarines. Patriot for Photoncis will provide SSGN and VIRGINIA Class submarines with enhanced situations awareness and collision avoidance. Currently Patriot has only been developed for SSN 688 and SSN 21 Class submarines. This effort will provide Patriot Radar Range Finding to SSGN and VIRGINIA Class submarines on the Photonics Mast.</p>								

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 2 of 37)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604777N NAVIGATION / ID SYSTEMS	PROJECT NUMBER AND NAME 0253 Navigation and Electro-Optical Support		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.391	0.130	0.900	0.365
RDT&E Articles Quantity				
Upgrade/Resolve Obsolescence Photonics On-Board Team Trainer development.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	5.326	3.873	4.708	4.647
RDT&E Articles Quantity				
Commence development of capabilities common to ISIS and Photonics, including: Image stitching, high resolution imaging, automatic visual detection, tracking and classification capabilities.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	3.453	2.051	3.539	2.211
RDT&E Articles Quantity				
Develop Low Light Level TV, improved image processing, and Photonics Imaging System all digital signal path.				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604777N NAVIGATION / ID SYSTEMS	PROJECT NUMBER AND NAME 0253 Navigation and Electro-Optical Support		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.448			
RDT&E Articles Quantity				
Complete Photonics Imaging System EDM Shock Test and convert to the configuration control model.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			2.800	1.200
RDT&E Articles Quantity				
Develop Patriot Radar Range Finding for Photonics for SSGN and VIRGINIA Class Submarines.				

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Exhibit R-4, Schedule Profile
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:		
			February 2005		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME			
RDT&E, N / BA-5	0604777N NAVIGATION / ID SYSTEMS	0253 Navigation and Electro-Optical Support			
(U) C. PROGRAM CHANGE SUMMARY:					
(U) Funding:		FY 2004	FY 2005	FY 2006	FY 2007
FY2005 President's Budget		11.347	6.120	9.142	7.162
FY2006 President's Budget		10.618	6.054	11.947	8.423
Total Adjustments		-0.729	-0.066	2.805	1.261
Summary of Adjustments					
Congressional Adjustments			-0.053		
Congressional Recissions					
Reprogrammings		-0.552			
Programmatic Adjustments			-0.013	2.739	1.150
Economic Assumptions				0.070	0.063
Pricing Adjustments				-0.004	0.048
SBIR/STTR Transfers		-0.177			
Subtotal		-0.729	-0.066	2.805	1.261
(U) Schedule:					
(U) Technical:					

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:		February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604777N NAVIGATION / ID SYSTEMS			PROJECT NUMBER AND NAME 0253 Navigation and Electro-Optical Support					
D. OTHER PROGRAM FUNDING SUMMARY:											
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>	
(U) SCN Line 201300 (Photonics Mast only)	18.865	19.208	19.558	19.665	20.039	49.144	50.149	51.157	Continuing	Continuing	
OPN Line 083100 (PL018, PL021 & PL022)	16.596	50.700	61.361	47.394	44.327	45.104	46.006	16.882	Continuing	Continuing	
OPN Line 083105	0.000	0.652	3.151	7.947	4.925	5.415	2.896	4.225	Continuing	Continuing	
(U) Related RDT&E											
(U) PE 0604558N											
(The VIRGINIA Class Design Development)	1.159	1.171	1.183	.188	.196	.202	.202	.202	Continuing	Continuing	
E. ACQUISITION STRATEGY:											
<p>The Acquisition Strategy for AN/BVS-1 Photonics Mast Program (PMP) is dtd 24 Sept 2001. The PMP provides for the development and acquisition of a non-hull penetrating submarine electronic imaging system. The Acquisition Strategy for Integrated Submarine Imaging System (ISIS) is dtd 07 Jul 2003. The ISIS will provide mission critical, all weather, visual, and electronic search, digital image management, indication, warning, and platform architecture interface capabilities for SSN 688, SSN 21, and SSGN class submarines.</p>											

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME									
RDT&E, N / BA-5			0604777N NAVIGATION / ID SYSTEMS			0253 Navigation and Electro-Optical Support									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Primary Hardware Development	Various	Various	43.451	5.397	10/03	1.565	10/04	2.487	10/05	2.167	10/06	Continuing	Continuing		
Software Development	Various	Various	1.477	1.922	10/03	0.879	10/04	2.343	10/05	1.907	10/06	Continuing	Continuing		
Aircraft Integration													0.000		
Ship Integration													0.000		
Ship Suitability													0.000		
Systems Engineering	Various	Various	8.489	1.678	10/03	1.791	10/04	2.830	10/05	1.609	10/06	Continuing	Continuing		
Training Development													0.000		
Licenses													0.000		
Miscellaneous	Various	Various	1.251	0.010	10/03	0.367	10/04	1.190	10/05	0.833	10/06	Continuing	Continuing		
GFE													0.000		
Award Fees													0.000		
Subtotal Product Development			54.668	9.007		4.602		8.850		6.516		Continuing	Continuing		
Remarks:															
Development Support													0.000		
Software Development													0.000		
Integrated Logistics Support													0.000		
Configuration Management													0.000		
Technical Data													0.000		
Studies & Analyses													0.000		
GFE													0.000		
Award Fees													0.000		
Subtotal Support			0.000	0.000		0.000		0.000		0.000		0.000	0.000		
Remarks:															

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Exhibit R-4, Schedule Profile
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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME									
RDT&E, N / BA-5			0604777N NAVIGATION / ID SYSTEMS			0253 Navigation and Electro-Optical Support									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Developmental Test & Evaluation	Various	Various		0.681	10/03	0.608	10/04	1.580	10/05	0.731	10/06		3.600		
Operational Test & Evaluation													0.000		
Live Fire Test & Evaluation													0.000		
Test Assets													0.000		
Tooling													0.000		
GFE													0.000		
Award Fees													0.000		
Subtotal T&E			0.000	0.681		0.608		1.580		0.731		0.000	3.600		
Remarks:															
Contractor Engineering Support													0.000		
Program Management Support												Continuing	Continuing		
Management Support Services/ETS	Various	Various		0.767	10/03	0.483	10/04	0.511	10/05	0.457	10/06	Continuing	Continuing		
Travel				0.051		0.109		0.050		0.045			0.255		
Transportation													0.000		
SBIR Assessment				0.112		0.252		0.956		0.674			1.994		
Subtotal Management			0.000	0.930		0.844		1.517		1.176		Continuing	Continuing		
Remarks:															
Total Cost			54.668	10.618		6.054		11.947		8.423		Continuing	Continuing		
Remarks:															

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CLASSIFICATION:

EXHIBIT R-4, RDT&E Schedule Profile							DATE:		February 2005	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NAME AND NUMBER			PROJECT NAME AND NUMBER					
RDT&E, N/BA-5		0604777N NAVIGATION / ID SYSTEMS			0253 Navigation and Electro-Optical Support					
	F0253 SCHEDULE	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	
	PMOBT									
	LINUX Conversion		Start Design	CDR		Software ECP				
	ISIS/APB									
	FY05 APB (Image Stitch, Image Fusion, Auto Detection)	Start Design	APB Sea Test	Software ECP						
	FY06 APB (Virtual Periscope, Radar Auto Tracking)	Start Design	APB Sea Test	Software ECP						
	FY07 APB Enhancement (TBD)		Start Design	APB Sea Test	Software ECP					
	FY08 APB Enhancements (TBD)			Start Design	APB Sea Test	Software ECP				
	ISIS Development		DT	SSN DT1		SSGN DT1			Full ISIS Deployment	
	Eye Piece Box Camera Improvements				Start Design	CDR		EDM		
	Photonics									
	LLLTV, HDTV & All Digital Signal Path Development		PDR CDR	EDM	AT Sea Test					
	Camera Performance Improvement / Obsolescence				Start Design	CDR		EDM		
	UNDEX									
	UNDEX for Photonics		UNDEX Test							
	Patriot for Photonics									
	Patriot for Photonics		Start Design	CDR	EDM					

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Exhibit R-4, Schedule Profile
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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
						February 2005		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME		
RDT& BA-5		0604777N NAVIGATION / ID SYSTEMS				0253 Navigation and Electro-Optical Support		
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
PMOBT								
Initiate PMOBT Linux Conversion			1Q					
PMOBT Linux Conversion CDR			4Q					
PMOBT Linux Software ECP					3Q			
ISIS/APB								
Initiate FY05 APB	1Q							
Initiate FY06 APB		1Q						
ISIS DT Assist		2Q						
ISIS SSN688 DT		4Q						
FY05 APB Sea Test		4Q						
Initiate FY07 APB			1Q					
FY06 APB Sea Test			3Q					
FY05 APB Software ECP			3Q					
Initiate FY08 APB				1Q				
FY07 APB Sea Test				3Q				
FY06 APB Software ECP				3Q				
ISIS SSGN DT					1Q			
Initiate ISIS Eye Piece Box Upgrades					1Q			
FY08 APB Sea Test					3Q			
FY07 APB Software ECP					3Q			
ISIS Eye Piece Box Upgrades CDR						1Q		
FY08 APB Software ECP						2Q		
ISIS Eye Piece Box Upgrades EDM							3Q	
Full ISIS Deployment								3Q
Photonics								
Photonics LLLTV, HDTV, All Digital Signal Path PDR		2Q						
Photonics LLLTV, HDTV, All Digital Signal Path CDR		4Q						
Photonics LLLTV, HDTV, All Digital Signal Path EDM			3Q					
Photonics LLLTV, HDTV, All Digital Signal Path Sea Test				2Q				
Initiate Photonics Camera Development				2Q				
Photonics Camera Development Improvement CDR					2Q			
UNDEX for Photonics								
UNDEX Test for Photonics		3Q						
Patriot for Photonics								
Initiate Patriot for Photonics			1Q					
Patriot for Photonics CDR			4Q					
Patriot for Photonics EDM				4Q				

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Exhibit R-4, Schedule Profile
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604777N NAVIGATION/ID SYSTEMS				PROJECT NUMBER AND NAME 0676 IMPROVED ID DEVELOPMENT			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	1.479	1.789	2.797	3.839	4.000	4.117	4.235	4.354
RDT&E Articles Qty		1						

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Reliable and secure navigation and positive identification (ID) systems are essential elements of battle management in the naval environment. In addition to distinguishing friend from foe for weapons employment, the Navy requires secure, jam resistant Identification Friend or Foe (IFF) systems for battle group air defense management and air traffic control. Identification is multifaceted and includes information received from several sensors (both cooperative and non-cooperative systems). The Improved MK XII (0676) addresses the Navy lead of a MK XIIA Mode 5 Upgrade to the existing Mark XII family of systems that is Joint and NATO interoperable. These funds provide for Mode 5 integration into the AN/UPX-29(V) IFF system which interfaces with the AEGIS baseline weapon system and for other AN/UPX-29(V) improvements. FY05 RDT&E article is a Mode 5 capable AN/UPX-24(V) (AN/UPX-29 Processor) for use in Combat System Certification for Mode 5 in AEGIS.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA -5	PROGRAM ELEMENT NUMBER AND NAME 0604777N NAVIGATION/ID SYSTEMS	PROJECT NUMBER AND NAME 0676 IMPROVED ID DEVELOPMENT		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Mark XIIA Mode 5 Improvement for AN/UPX-29	0.573	1.363	1.207	1.486
RDT&E Articles Quantity				
Engineering and integration development of MARK XIIA Improvements to the AN/UPX-29(V). Correct deficiencies from Developmental Test B1 and Operational Test B1. (DTB1-OTB1). Develop AN/UPX-29 interface capability.				
	FY 04	FY 05	FY 06	FY 07
AN/UPX-29(V) Software Development	0.606		1.135	1.436
RDT&E Articles Quantity				
Development of MARK XIIA Improvement to the AN/UPX-29(V) system software for interface with AEGIS weapon system and core Integrated Logistics Support (ILS) documents; formalize hardware/software configuration; update technical data as required. Develop ILS documentation in support of DT-C1/OT-C1 and software for AN/UPX-29(V) interface. Correct DT-C1/OT-C1 software deficiencies and baseline software and documentation.				
	FY 04	FY 05	FY 06	FY 07
Mark XIIA Mode 5 Development and Operational Tes	0.300	0.426	0.455	0.917
RDT&E Articles Quantity		1		
Provide support for MARK XIIA Mode 5 DT/OA and provide test asset for MARK XIIA Mode 5 DT/OT B1 and AEGIS Combat system development site. Provide support for MARK XIIA Improvements to the AN/UPX-29(V) DT-B1/OT-B1 . Provide support for AEGIS Combat System operational demonstration. Provide support for AEGIS Combat System certification.				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604777N NAVIGATION/ID SYSTEMS	PROJECT NUMBER AND NAME 0676 IMPROVED ID DEVELOPMENT		

C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 04	FY 05	FY 06	FY 07
FY2005 President's Budget	1.536	1.811	2.778	3.753
FY2006 President's Budget	1.479	1.789	2.797	3.839
Total Adjustments	-0.057	-0.022	0.019	0.086

Summary of Adjustments

Congressional Adjustments				
Congressional Recissions		-0.019		
Reprogrammings	-0.057	-0.003		
Programmatic Adjustments			-0.003	
Economic Assumptions				
Pricing Adjustments			0.022	0.086
SBIR/STTR Transfers				
Subtotal	-0.057	-0.022	0.019	0.086

Schedule:

Developmental Tests (DT-B1) duration was increased from 3 months to 6 months to allow for additional risk reduction of production representative modules. Operational Tests (OT-B1) baseline dates have increased by three months. These minor Test & Evaluation milestone changes do not impact Milestone C. Integrated Combat Systems Test Facility (ICSTF) event was moved to FY 2007 to properly support production line efforts that will begin in FY 2008.

Technical: Not applicable.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604777N NAVIGATION/ID SYSTEMS			PROJECT NUMBER AND NAME 0676 IMPROVED ID DEVELOPMENT				
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
Identification Systems - 42MT	21.687	18.183	24.915	30.592	31.406	32.288	35.991	36.866	Continuing	Continuing
E. ACQUISITION STRATEGY:										
The acquisition strategy is to develop Mode 5 ECPs (Engineering Change Proposals) for modern Mark XII IFF (Identification Friend or Foe) equipment and integrate into all Navy Combat Weapons systems platforms and transition the Navy's Cooperative Identification Capability to Mode 5.										

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604777N NAVIGATION/ID SYSTEMS			PROJECT NUMBER AND NAME 0676 IMPROVED ID DEVELOPMENT						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	WR	NAWCAD, MD	0.883			0.600	11/05	0.300	11/06	Continuing	Continuing	
Ancillary Hardware Development												
Aircraft Integration												
Ship Integration	WR	NAWCAD, MD	0.460	0.300	11/04	0.050	11/05	0.250	11/06	Continuing	Continuing	
Ship Suitability												
Systems Engineering	WR	NAWCAD, MD	1.145	0.637	11/04	0.750	11/05	0.686	11/06	Continuing	Continuing	
Training Development	WR	NAWCAD, MD				0.100	11/05	0.100	11/06	Continuing	Continuing	
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			2.488	0.937		1.500		1.336		Continuing	Continuing	
Remarks:												
Development Support												
Software Development	WR	NAWCAD, MD	1.580			0.400	11/05	0.400	11/06	Continuing	Continuing	
Integrated Logistics Support	WR	NAWCAD, MD	0.371	0.386	11/04	0.728	11/05	0.500	11/06	Continuing	Continuing	
Configuration Management	WR	NAWCAD, MD	0.050	0.050	11/04	0.069	11/05	0.300	11/06	Continuing	Continuing	
Technical Data	WR	NAWCAD, MD	0.188	0.100	11/04	0.100	11/05	0.500	11/06	Continuing	Continuing	
Studies & Analyses												
Reprogramming			0.001									
Award Fees												
Subtotal Support			2.190	0.536		1.297		1.700		Continuing	Continuing	
Remarks:												

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Exhibit R-4, Schedule Profile
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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)									DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604777N NAVIGATION/ID SYSTEMS			PROJECT NUMBER AND NAME 0676 IMPROVED ID DEVELOPMENT						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NAWCAD, MD	0.050	0.100	11/04			0.200	11/06	Continuing	Continuing	
Operational Test & Evaluation	WR	NAWCAD, MD		0.216	11/04			0.300	11/06	Continuing	Continuing	
Live Fire Test & Evaluation												
Test Assets	WR	NAWCAD, MD	0.250					0.303	11/06	Continuing	Continuing	
Tooling												
GFE												
Award Fees												
Subtotal T&E			0.300	0.316				0.803		Continuing	Continuing	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support											0.000	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			4.978	1.789		2.797		3.839		Continuing	Continuing	
Remarks:												

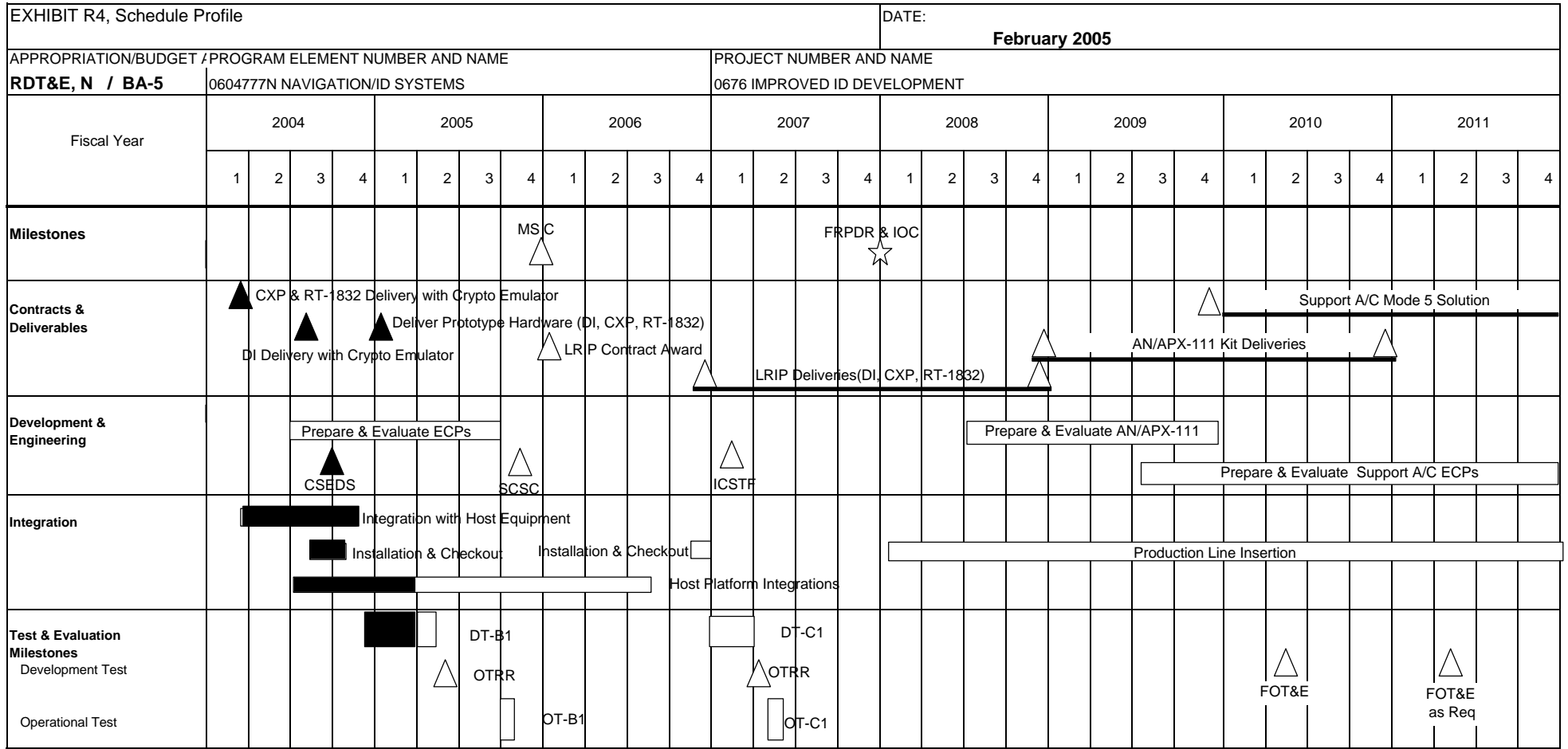
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Exhibit R-4, Schedule Profile
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Exhibit R-4, Schedule Profile
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UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604777N NAVIGATION/ID SYSTEMS			PROJECT NUMBER AND NAME 1253 COMBAT ID SYSTEMS			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	10.229	5.631	14.485	13.614	14.135	14.507	17.003	17.410
RDT&E Articles Qty	28		37			8		
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: In 1995, the Under Secretary of Defense (Acquisition and Technology)/Vice Chairman, Joint Chiefs of Staff {USD(A7T)/VCJCS} tasked the Services to develop a high-level plan and long-range strategy for migrating to new Mark XII equipment. The services were also tasked to work with participating NATO Allies to develop a new MK XII waveform and document it in NATO Standard Agreement (STANAG). The Navy took the lead in a waveform development effort conducted in coordination with a five nation Technical Working Group (TWG), supported by Joint Services and Industry. The Navy, in conjunction with the TWG, designed, developed, modeled, and tested a new waveform - MK XIIA Mode 5. A separate five nation Communications Security (COMSEC) group, led by the National Security Administration (NSA), developed a new cryptographic algorithm and associated cryptographic equipment interoperability requirements specification. STANAG 4193, Part V has been ratified and promulgated to all NATO nations, and Part VI was approved for promulgation in January 2002. The 28 RDT&E articles in FY04 included Mode 5 emulators, cryptographic modules, install kits, and associated hardware and software changes to host AN/UPX-37, AN/APX-118, and RT-1832s. The FY06 RDT&E articles are production representative Low Rate Initial Procurement units comprised of Mode 5 cryptographic modules and install kits for AN/APX-118, R/T-1832 and AN/UPX-24 with associated hardware and software changes to host boxes. The FY09 RDT&E articles are cryptographic modules, install kits and associated hardware and software changes in the AN/APX-111.								
In August 2003 the Navy MK XIIA Mode 5 program was approved for entry in Systems Development and Demonstration (SDD) phase with approval to develop prototypes. Operational Assessment (OA) is scheduled for 3Q FY05 with Operational Evaluation (OE) in 2Q FY07.								

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Exhibit R-4, Schedule Profile
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA -5	PROGRAM ELEMENT NUMBER AND NAME 0604777N NAVIGATION/ID SYSTEMS	PROJECT NUMBER AND NAME 1253 COMBAT ID SYSTEMS		

B. Accomplishments/Planned Program

	FY 04	FY 05	FY 06	FY 07
Mode 5 prototype hardware & cryptographic module	6.040	2.281	10.479	6.275
RDT&E Articles Quantity	28		37	

Perform development of kits for installation into existing fleet assets (includes but not limited to AN/UPX-37 Interrogator, AN/APX-118 Common Digital Transponder, AN/APX-111 Interrogator/Transponder, and RT-1832/APX Transponder). Repair and correct deficiencies identified during testing in support of Milestone C decision and procure 37 Low Rate Initial Procurement (LRIP) units in FY06 to support OPEVAL. LRIP units include Mode 5 cryptographic modules install kits for AN/APX-118, R/T-1832 and AN/UPX-24 with associated hardware and software changes to the host boxes.

	FY 04	FY 05	FY 06	FY 07
Mode 5 systems engineering	1.492	1.510	2.120	1.894

Perform systems engineering and analysis in support of Mode 5 hardware/software development and platform integration efforts on the AN/UPX-37 Interrogator, AN/APX-118 Common Digital Transponder, AN/APX-111 Interrogator/Transponder, RT-1832/APX Transponders, Cryptographic Module, Mode 5 Engineering Test Equipment, and Mode 5 support equipment.

	FY 04	FY 05	FY 06	FY 07
Conduct DT & OT of the Mode 5 upgrade	2.697	1.840	1.886	5.445

Perform Mode 5 developmental and operational test phases for AN/UPX-37 Interrogator, AN/APX-118 Common Transponder, and RT-1832/APX Transponder.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604777N NAVIGATION/ID SYSTEMS	PROJECT NUMBER AND NAME 1253 COMBAT ID SYSTEMS		

C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 04	FY 05	FY 06	FY 07
FY2005 President's Budget	10.454	5.706	14.399	13.401
FY2006 President's Budget	10.229	5.631	14.485	13.614
Total Adjustments	-0.225	-0.075	0.086	0.213
Summary of Adjustments				
Congressional Adjustments				
Congressional Recissions		-0.059		
Reprogrammings	-0.225	-0.016		
Programmatic Adjustments			-0.02	-0.071
Economic Assumptions			0.034	
Pricing Adjustments			0.072	
SBIR/STTR Transfers				
Subtotal	-0.225	-0.075	0.086	-0.071

(U) Schedule:

Developmental Tests (DT-B1) duration was increased from 3 months to 6 months to allow for additional risk reduction of production representative modules. Operational Tests (OT-B1) baseline dates have increased by three months. These minor Test & Evaluation milestone changes do not impact Milestone C. Integrated Combat Systems Test Facility (ICSTF) event was moved to FY 2007 to properly support production line efforts that will begin in FY 2008.

(U) Technical: Not applicable.

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Exhibit R-4, Schedule Profile
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME				
RDT&E, N / BA-5		0604777N NAVIGATION/ID SYSTEMS				1253 COMBAT ID SYSTEMS				
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
Identification Systems - 42MT	21.687	18.183	24.915	30.592	31.406	32.288	35.991	36.866	Continuing	Continuing
ID Systems - 45CS		1.569	7.741	11.197	11.351	6.745	24.194	30.945	Continuing	Continuing
E. ACQUISITION STRATEGY:										
The acquisition strategy is to develop Mode 5 ECPs (Engineering Change Proposals) for modern Mark XII IFF (Identification Friend or Foe) equipment and integrate into all Navy Combat Weapons systems platforms and transition the Navy's Cooperative Identification Capability to Mode 5.										

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-5			PROGRAM ELEMENT 0604777N NAVIGATION/ID SYSTEMS			PROJECT NUMBER AND NAME 1253 COMBAT ID SYSTEMS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	VAR	VAR	15.840	2.281	12/04	1.035	12/05	0.992	12/06	Continuing	Continuing	
Ancillary Hardware Development												
Aircraft Integration	WR	NAWCAD, MD				4.445	11/05	1.835	11/06	Continuing	Continuing	
Ship Integration	WR	NAWCAD, MD				1.349	11/05	1.504	11/06	Continuing	Continuing	
Ship Suitability												
Systems Engineering	WR	NAWCAD, MD	3.628	0.288	11/04	2.120	11/05	1.894	11/06	Continuing	Continuing	
Training Development												
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			19.468	2.569		8.949		6.225		Continuing	Continuing	
Remarks:												
Development Support												
Software Development	VAR	VAR	2.708			2.500	12/05	0.780	12/06	Continuing	Continuing	
Integrated Logistics Support	WR	NAWCAD, MD	0.317			0.193	11/05	0.201	11/06	Continuing	Continuing	
Configuration Management	WR	NAWCAD, MD				0.042	11/05	0.043	11/06	Continuing	Continuing	
Technical Data	WR	NAWCAD, MD	0.053			0.042	11/05	0.043	11/06	Continuing	Continuing	
Studies & Analyses												
Reprogramming												
Award Fees												
Subtotal Support			3.078			2.777		1.067		Continuing	Continuing	
Remarks:												

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Exhibit R-4, Schedule Profile
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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE&E, N / BA-5			0604777N NAVIGATION/ID SYSTEMS			1253 COMBAT ID SYSTEMS						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NAWCAD, MD	4.564	0.882	11/04	1.886	11/05	1.906	11/06	Continuing	Continuing	
Operational Test & Evaluation	WR	NAWCAD, MD		0.958	11/04			3.539	11/06	Continuing	Continuing	
Live Fire Test & Evaluation												
Test Assets												
Tooling												
GFE												
Award Fees												
Subtotal T&E			4.564	1.840		1.886		5.445		Continuing	Continuing	
Remarks:												
Contractor Engineering Support	VAR	NAWCAD, MD	0.450			0.495	11/05	0.487	11/06	Continuing	Continuing	
Government Engineering Support	WR	NAWCAD, MD	1.811	0.558	11/04	0.169	11/05	0.175	11/06	Continuing	Continuing	
Program Management Support	WR	NAVAIR, MD	1.961	0.624	11/04	0.169	11/05	0.175	11/06	Continuing	Continuing	
Travel	WR	NAWCAD, MD	0.165	0.040	11/04	0.040	11/05	0.040	11/06	Continuing	Continuing	
Transportation												
SBIR Assessment												
Subtotal Management			4.387	1.222		0.873		0.877		Continuing	Continuing	
Remarks:												
Total Cost			31.497	5.631		14.485		13.614		Continuing	Continuing	
Remarks:												

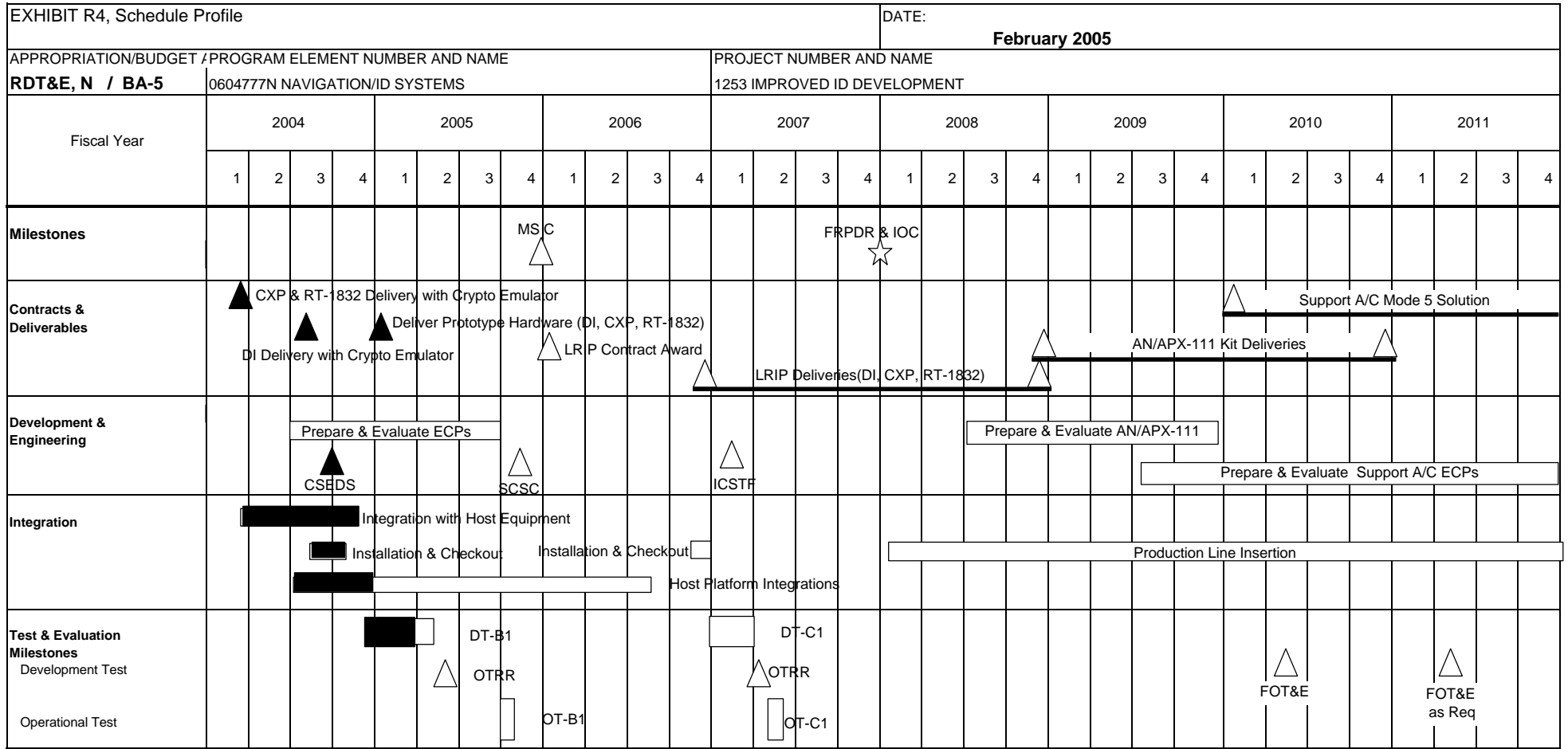
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Exhibit R-4, Schedule Profile
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Exhibit R-4, Schedule Profile
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UNCLASSIFIED

CLASSIFICATION:									
EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604777N NAVIGATION/ID SYSTEMS				PROJECT NUMBER AND NAME 0921 NAVSTAR GPS EQUIPMENT			
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		20.480	14.311	23.488	25.196	28.016	28.551	27.161	25.143
RDT&E Articles Qty									
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The mission is to provide supported, affordable, integrated, and interoperable navigation solutions to the war fighters. RDT&E funds are used to perform all the non-recurring Global Positioning System (GPS) Surface Ship, Submarine and Aircraft Integration efforts. The Aircraft integration efforts are required for 102 different configurations of Navy, Marine Corps and Coast Guard aircraft. The GIG directs GPS design functional characteristics for the aircraft and Public Law 103-160 directs the schedule for completion of all "basic GPS" installations by 30 September 2005. The Navigation Warfare (NAVWAR) mission was initiated in FY 99 in response to emerging GPS jamming threats and the requirement to protect the Navy's growing investment in GPS.</p> <p>The GPS is a space-based positioning, navigation and timing (PNT) system that provides authorized users with secure, worldwide, all-weather, three-dimensional position, velocity and precise time data. PMW/PMA-156 is the central office responsible for funding all GPS aircraft integration RDT&E efforts performed by over 20 NAVAIR program offices, dozens of DoD/Navy field activities and laboratories, and dozens of contractors. The primary tasks to be accomplished for each of the 102 aircraft configurations include: GPS integration design studies; acquisition of aircraft and lab RDT&E assets; timing and frequency, development of test aircraft hardware and/or software designs; development of Integrated Logistics Support (ILS) elements to support test (operator and maintenance training, technical manuals); and Formal Navy Test and Evaluation (Development and Operational Test). Other tasks include the development of: new hardware and software systems for over 3300 Naval Aircraft to meet GIG, GPS Flight In Controlled Airspace (FICA), Common Navigation System/Air Traffic Management (CNS/ATM) and JPALS requirements when existing systems are unsuitable; the Digital Data Set (DDS); the Control Display Navigation Unit (CDNU) and associated software for many different aircraft and modifications to the GPS Mission Planning Module for the Naval Mission Planning System (NAVMPS)/Joint Mission Planning System (JMPS).</p> <p>The Surface Ship and Submarine integration efforts include two vitally important navigation integration initiatives: NAVSSI and the AN/WRN-6 replacement. The first program is the Navigation Sensor System Interface (NAVSSI) development. The NAVSSI is the surface ship system with a requirement of integrating with over 54 systems/interfaces on 131 surface ship platforms. This operational requirement for the NAVSSI is the integration and distribution of real time navigation and time sources, primarily GPS, to combat systems, combat support systems, air alignment systems and support systems. NAVSSI is an evolutionary acquisition development. The program will begin developing a replacement for both the AN/WRN-6 shipboard GPS receiver on non-NAVSSI ships and the GVRC shipboard GPS receiver on NAVSSI ships beginning in FY06. Both the WRN-6 and the GVRC are no longer in production and require replacement.</p> <p>For submarine systems, the program is supporting ongoing NAVSEA initiatives for the replacement of the AN/WRN-6 systems with the GVRC card technology. The National Defense Authorization Act for Fiscal Year 1999 included GPS language directing DoD to start "The development of an enhanced Global Positioning System [as] an urgent national security priority."</p>									

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Exhibit R-4, Schedule Profile
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /BA-5	PROJECT NUMBER AND NAME 0921 NAVSTAR GPS EQUIPMENT	
<p>The Naval Research Advisory Committee (NRAC) GPS Vulnerability Study Panel tasked by OPNAV N6 and ASN(RD&A), assessed the Navy's GPS Vulnerabilities and recommended specific actions to resolve serious issues to ensure the continued availability of GPS information in a high risk hostile jamming environment. As a result, OPNAV N633 (now N611) and N880 (now N78) drafted the Navy Enhanced GPS User Equipment ORD to address operational requirements. These were validated and the ORD was approved on June 7, 2000. With this beginning, OSD directed the first phase of the Navy's overall GPS upgrade program with RDT&E leading to initial procurements of GPS anti-jam (AJ) antennas beginning in 2001 for aircraft and 2002 for ships. RDT&E continues to support platform integration requirements, DT/OT, as well as the GPS JPO's development of an Advanced Digital Antenna Production (ADAP) program, the Navy's development of a smaller AJ antenna and a conformal low-observable AJ antenna for aircraft with those requirements, and a new a technology AJ solution for submarines and the integration of AJ protection into handheld receivers. Two similar but separate ACAT III programs (Air and Sea NAVWAR) have been established and have become the basis for the Navy's NAVWAR program.</p> <p>The second phase (referred to as Air and Sea GPS Modernization) of the Navy's overall GPS User Equipment upgrade, will require RDT&E to support the replacement of existing legacy GPS receivers with enhanced capability receivers and antennas. These new receivers and antennas will incorporate GPS Joint Program Office (JPO) and Navy directed and developed technology enhancements to support new signals in space, enhanced receiver security, and aircraft operations within controlled airspace and Joint Precision Approach and Landing System (JPALS) requirements. All of these efforts will be directed, tasked, and funded through PMW/PMA-156, including development of solutions for GPS Handheld receivers and Combat Survivor Evader and Locator (CSEL) user equipment.</p> <p>The primary Global Positioning System (GPS) shipboard receivers fielded on the majority of U.S Navy ships today include the AN/WRN-6 and the GPS VME Receiver Card (GVRC). These military GPS receivers provide precise Position, Velocity, and Time (PVT) data required for many combat weapons and navigation systems, as well as providing the time synchronization critical to the network environments. The failure of the GPS receiver ultimately means the loss of GPS for the ship and those systems that depend upon it. However, as GPS devices have proliferated throughout the commercial community, it has become more readily available not only to civilians, but to adversaries as well. As a result, even the military GPS Precise Positioning System (PPS) is more vulnerable today to unintentional and intentional jamming. The new security architecture, known as Selective Availability Anti-Spoof Module (SAASM), addresses this vulnerability, and has been mandated for all military combat GPS users beginning in FY07. Additionally, the GPS satellite constellation is being modernized to incorporate new GPS signals from space for both military and civilian users (e.g., M-code and L5). While SAASM-capable GPS receivers are available commercially today, they require modification to support the various combat system requirements and interfaces required by the Navy shipboard systems, and will require modification in the future to implement the new GPS modernized signals (expected to become available in FY11). The WRN-X system, a new development, will be engineered for immediate implementation of SAASM, and will be an open architecture allowing for modification to implement modernized GPS signals when they become available; thus making it backwards and forwards compatible with all GPS systems (e.g., Y code, M code, (C/A) code (YMCA)). This will allow other programs to integrate the same GPS engine utilized in WRN-X into their system sooner than when a WRN-X system would become available, but at the same time allow for the goal of reducing the different GPS engines fielded in the Naval Fleet today.</p>		

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Exhibit R-4, Schedule Profile
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME 0604777N NAVIGATION/ID SYSTEMS	PROJECT NUMBER AND NAME 0921 NAVSTAR GPS EQUIPMENT		

(U) B. Accomplishments/Planned Program

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	14.051	9.341	14.112	14.611
RDT&E Articles Quantity	0	0	0	0

(U) FY04 ACCOMPLISHMENTS: (\$14.051) Air NAVWAR: Completed DT on the HH-60H and will translate that performance data to the other H-60 series platforms. Continued DT testing on the AV-8B. Began investigation of integrations on H-53 platforms. Began integration studies on the AH/UH-1. Continued F/A-18E/F/G integration analysis's and monitored continued conformal/low observable array technologies. Continued testing on the GAS-1N and GAS-1N polarimetric antennas. Participated in the GPS JPO's Advanced Digital Antenna Program (ADAP) source selection & hardware testing for potential application to Naval platforms. Began integration efforts on additional aircraft T/M/S. Participated in joint NAVWAR MOU initiatives with Canada, United Kingdom and Australia.

(U) FY05 PLANS: (\$9.341) Air NAVWAR: Continue DT/OT testing on AV-8B and H-60 series platforms. Begin integration and testing on the H-53 and H-1 series platforms. Begin technology analysis and down select for the F/A-18 E/F/G. Continue monitoring/testing on conformal/Low Observable (LO) arrays. Initiate contract for conformal-LO array. Continue development and integration testing on the ADAP. Begin/continue integration efforts and DT on additional aircraft T/M/S. Continue participation in joint NAVWAR MOU initiatives with Canada, United Kingdom and Australia.

(U) FY06 PLANS: (\$14.112) Air NAVWAR: Complete A/V-8B testing. Continue integration and DT/OT testing on H-1 and H-53 platforms. Continue technology down select on the F/A-18 E/F/G. Continue monitoring/testing on conformal/LO arrays. Continue development/integration testing on the ADAP. Begin integration analysis on E-2C. Begin/continue integration efforts and DT on additional aircraft T/M/S. Continue participation in joint NAVWAR MOU initiatives with Canada, United Kingdom and Australia.

(U) FY07 PLANS: (\$14.611) Air NAVWAR: Begin integration and testing on the F/A-18 E/F/G. Complete DT/OT on the H-1 platforms. Complete DT on E-2C. Begin/continue integration efforts and DT on additional aircraft T/M/S. Continue participation in joint NAVWAR MOU initiatives with Canada, United Kingdom and Australia. Begin integration of ADAP on selected air platforms.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	4.929	3.470	5.876	6.085
RDT&E Articles Quantity	0	0	0	0

((U) FY04 ACCOMPLISHMENTS: (\$4.929) Sea NAVWAR: Continued initial integration efforts (modeling and simulation) on selected Phase 1 platforms. Began DT efforts on selected Phase 1A (i.e. FFG) and Phase 1B (DDG) NAVSSI ship classes. Coordinated with NAVSSI program for integration of NAVWAR software capability into NAVSSI. Continued Wavelength Division Multiplexer (WDM) technology evaluation. Conducted submarine AOA preparations for MDA Milestone review and technology down select for Phase 2 efforts. Participated in the GPS JPO's Advanced Digital Antenna Program (ADAP) source selection & hardware testing for potential application to sea Naval platforms. Participated in joint NAVWAR MOU initiatives with Canada, United Kingdom and Australia.

(U) FY05 PLANS: (\$3.470) Sea NAVWAR: Continue modeling/simulation, integration, DT efforts on selected Phase 1A & and DT/OT on Phase 1B sea platforms (CVN). Continue submarine AJ development and integration efforts. Support Phase 2 M/S B decision efforts. Continued WDM technology evaluation. Continue development/integration testing on the ADAP. Continue participation in joint NAVWAR MOU initiatives with Canada, United Kingdom and Australia.

(U) FY06 PLANS: (\$5.876) Sea NAVWAR: Continue modeling/simulation, integration, DT efforts on selected Phase 1A and 1B sea platforms. Continue submarine AJ antenna development and integration efforts. Continue participation in Joint NAVWAR MOU initiatives with Canada, United Kingdom and Australia. Continue development/integration testing on the ADAP.

(U) FY07 PLANS: (\$6.085) Sea NAVWAR: Continue modeling/simulation, integration, DT efforts on selected Phase 1A and 1B platforms. Continue submarine AJ development and integration efforts. Begin DT on submarines. Continue participation in Joint NAVWAR MOU initiatives with Canada, United Kingdom and Australia. Begin integration of ADAP on selected platforms.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																															
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME 0604777N NAVIGATION/ID SYSTEMS	PROJECT NUMBER AND NAME 0921 NAVSTAR GPS EQUIPMENT																																
(U) B. Accomplishments/Planned Program																																		
<table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">1.500</td> <td style="text-align: center;">1.500</td> <td style="text-align: center;">1.500</td> <td style="text-align: center;">1.500</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> </table> <p>U) FY04 ACCOMPLISHMENTS: (\$1.500) Coordinated Navy efforts with the GPS JPO, PEO C4I , SPAWAR, NAVAIR and NAVSEA in preparation for new GPS modernization initiatives i.e. M-Code, Beam steering antennas, new 24-channel receivers, SAASM, Y-Code, M-Code C/A Code (YMCA), etc. Evaluating platform requirements and continued efforts to support the evaluations of smaller new technology AJ antennas. Participated in the development of OPNAV's GPS roadmap. Coordinated the upgrade of the Navy's Enhanced User Equipment ORD into a Capabilities Development Document (CDD).</p> <p>U) FY05 PLANS: (\$1.500) Continue the above in support of the GPS JPO, PEO C4I , SPAWAR, NAVAIR and NAVSEA.</p> <p>U) FY06 PLANS: (\$1.500) Continue the above in support of the GPS JPO, PEO C4I , SPAWAR, NAVAIR and NAVSEA. Begin the process of capturing the Navy's Air and Sea platform requirements for the integration of new GPS signals from space</p> <p>U) FY07 PLANS: (\$1.500) Continue the above in support of the GPS JPO, PEO C4I , SPAWAR, NAVAIR and NAVSEA. Initial Air and Sea platform specification developments for hardware/software upgrades to support the integration of new capabilities and signals from space.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">2.000</td> <td style="text-align: center;">3.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> </table> <p>U) FY06 PLANS: WRN X</p> <p>U) (\$1.050) Determine the appropriate milestone decision point of entry for the new WRN-X system. Perform programmatic tasks such as development of mandatory acquisition documentation (e.g., Acquisition Strategy Plan), as required for that milestone entry point. Conduct GPS market investigations and research to scope the level of engineering effort that will be necessary to integrate a commercially available GPS engine into the WRN-X system. Begin preparing for that milestone decision review.</p> <p>U) (\$.950) Working with the GPS Joint Program Office (JPO), and utilizing the newly available GPS initial specifications and Interface Control Documents, definitize the Navy shipboard GPS functional requirements. Work with other program offices who maintain interfaces with the WRN-6 and GVRC, to determine which legacy interfaces are no longer required, and identify any new or future interfaces that might be required for the WRN-X shipboard GPS receiver. Draft the WRN-X technical specifications or Statement of Objectives (SOO), along with a draft Request for Proposal (RFP).</p> <p>U) FY07 PLANS: WRN X</p> <p>U) (\$.250) Finalize mandatory acquisition documentation. Conduct appropriate milestone decision review.</p> <p>U) (\$.925) Finalize the WRN-X technical specifications or SOO. Finalize and issue the RFP. Evaluate responses through a source selection team.</p> <p>U) (\$1.825) Award the WRN-X system Development and Demonstration contract. Begin design, functional allocation, and preparation for System Design Review (SDR).</p>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	1.500	1.500	1.500	1.500	RDT&E Articles Quantity	0	0	0	0		FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	2.000	3.000	RDT&E Articles Quantity	0	0	0	0
	FY 04	FY 05	FY 06	FY 07																														
Accomplishments/Effort/Subtotal Cost	1.500	1.500	1.500	1.500																														
RDT&E Articles Quantity	0	0	0	0																														
	FY 04	FY 05	FY 06	FY 07																														
Accomplishments/Effort/Subtotal Cost	0.000	0.000	2.000	3.000																														
RDT&E Articles Quantity	0	0	0	0																														

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME 0604777N NAVIGATION/ID SYSTEMS	PROJECT NUMBER AND NAME 0921 NAVSTAR GPS EQUIPMENT		

(U) C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
(U) Funding:				
FY2005 President's Budget	21.831	14.467	21.433	21.856
FY2006 President's Budget	20.480	14.311	23.488	25.196
Total Adjustments	-1.351	-0.156	2.055	3.340
Summary of Adjustments				
Congressional Adjustments				
Congressional Recissions		-0.129		
Reprogrammings	-0.697			
Programmatic Adjustments		-0.027	1.942	2.962
Economic Assumptions	-0.074		0.071	0.097
Pricing Adjustments			0.042	0.281
SBIR/STTR Transfers	-0.580			
Subtotal	-1.351	-0.156	2.055	3.340

(U) Schedule:

 WRN X development efforts begin in FY06.

(U) Technical:

 Not Applicable

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EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0604777N NAVIGATION/ID SYSTEMS			PROJECT NUMBER AND NAME 0921 NAVSTAR GPS EQUIPMENT			

(U) D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
(U) OPN Line #2657	15.417	11.579	14.715	13.631	14.479	14.208	14.487	18.782	Continuing	Continuing
(U) APN - Common Avionics	2.260	0.000	17.976	22.304	22.812	23.278	24.605	26.025	Continuing	Continuing

(U) E. ACQUISITION STRATEGY:

NAVWAR/GPS Modernization: Participate in GPS Joint Program Office and Warner Robbins ALC FY 01-FY 07 procurements for the GAS-1 anti-jam antenna. Initiate Navy contracting options for smaller array anti-jam antennas and conformal/low observable arrays for selected aircraft. Initiate Navy contracting for the shipboard ground plane and submarine array. Participate with the GPS JPO in their development of a Advanced Digital Antenna Program (ADAP) Lowest Repairable Unit (LRU) and identify potential Navy candidate platforms. Participate in GPS JPO procurements wherever practicable for GPS Modernization Enhancements. Develop the Navy's specifications necessary to capture and implement future GPS enhancements. See attached Milestone chart.

WRN-X: Initiate Navy contracting options for a WRN-6 Replacement (WRN-X Modernized Shipboard GPS system). Investigate commercial modernized GPS engines certified through the GPS JPO for application in the WRN-X system. Support the development of the Navy's Modernized GPS User Equipment efforts as they apply specifically to non-NAVSSI shipboard applications. Work in concert with the WRN-6 sustainment efforts to ensure a coupled solution of obsolescence upgrades (occurring under WRN-6 Sustainment) and modernizations tasks (for WRN-X development).

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CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5				PROGRAM ELEMENT 0604777N NAVIGATION/ID SYSTEMS			PROJECT NUMBER AND NAME 0921 NAVSTAR GPS EQUIPMENT					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Product Development	Various	Product Vendors	268.878	1.800	Various	3.433	Various	4.233	Various	Continuing	Continuing	
Product Development (SSC-SD)	WX	SSC-SD	65.938	0.371	10/04	0.750	10/05	0.850	10/06	Continuing	Continuing	
Product Dev (other in house)	WX	Various Field Activities	439.397								439.397	
Systems Engineering	Various	Various Govt/Contractor	4.310	1.500	Various	2.400	Various	2.923	Various	Continuing	Continuing	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			778.523	3.671		6.583		8.006		Continuing	Continuing	
Remarks:												
Development Support	Various	Various	12.710								12.710	
Software Development	Various	SSC-SD/Platfrom Primes	5.900	0.700	10/04	1.000	10/05	1.000	10/06	Continuing	Continuing	
Integrated Logistics Support	Various	SSC-SD/NAWC/SIR/DCS	1.607	0.850	10/04	0.900	10/05	0.900	10/06	Continuing	Continuing	
Training Development	WX	SSC-SD/NAWC	1.450	0.275	10/04	0.600	10/05	0.600	10/06	Continuing	Continuing	
Technical Data	Various	Platform PMO's	1.000	0.300	10/04	0.600	10/05	0.600	10/06	Continuing	Continuing	
											0.000	
											0.000	
Subtotal Support			22.667	2.125		3.100		3.100		Continuing	Continuing	
Remarks:												

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Exhibit R-4, Schedule Profile
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CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)									DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604777N NAVIGATION/ID SYSTEMS			PROJECT NUMBER AND NAME 0921 NAVSTAR GPS EQUIPMENT						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Test & Evaluation (NAWC PAX)	WX	NAWC PAX	13.729	1.700	10/04	2.500	10/05	2.500	10/06	Continuing	Continuing	
Test & Evaluation (DCS)	CPAF	DCS CORP PAX	2.111	0.365	10/04	0.450	10/05	0.450	10/06	Continuing	Continuing	
Test & Evaluation (SSC-SD)	WX	SSC-SD	2.545	0.586	10/04	0.900	10/05	0.900	10/06	Continuing	Continuing	
Test & Evaluation Platform Testing	Various	VARIOUS CONTRACTORS	9.196	1.869	Various	3.755	Various	4.040	Various	Continuing	Continuing	
											0.000	
											0.000	
Subtotal T&E			27.581	4.520		7.605		7.890		Continuing	Continuing	
Remarks:												
Contractor Engineering Support	Various	DCS, SAIC, ARINC	4.785	1.452	10/04	1.800	10/05	1.800	10/06	Continuing	Continuing	
Government Engineering Support	WX	SSC, NAWC, WR	4.050	0.899	10/04	2.200	10/05	2.200	10/06	Continuing	Continuing	
Program Management Support	CPAF	DCS, Price Systems	11.452	1.644	10/04	2.200	10/05	2.200	10/06	Continuing	Continuing	
											0.000	
Subtotal Management			20.287	3.995		6.200		6.200		Continuing	Continuing	
Remarks:												
Total Cost			849.058	14.311		23.488		25.196		Continuing	Continuing	0.000
Remarks:												

R-1 SHOPPING LIST - Item No. 131

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 34 of 37)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:																
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME																
RDT&E, N / BA-5												0604777N NAVIGATION/ID SYSTEMS												0921 NAVSTAR GPS EQUIPMENT																
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011											
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4												
Air NAVWAR Acq M/S																																								
Air Phase 1		▲	Gas-1	Opt 1	△	Gas-1	Opt 2		△	Gas-1	Opt 3		△	Gas-1	Opt 4									△	PH 2A IOC															
Air Phase 2A											△		M/S C LRIP				△		M/S C FRP				△	M/S C LRIP		△	PH 2B IOC													
Air Phase 2B											△		M/S B								△			△																
Phase 2A & 2B	▲								△	GAS-1N Awd			△	Opt 2			△	Opt 3			△	Opt 3																		
Phase 2 A	Phase 2A & 2B Antenna Dev and testing												OT																											
Antenna Development																	R&D contract								△	LRIP contract		FRP contract		△	Conf Award									
Phase 2B																																								
Integration and T&E M/S	MH 60R/S DT				E-2C NRE, DT								F/A-18 C/D NRE DT E-6B NRE DT																											
Phase 1 D T & OT																																								
Phase 2A DT & OT	AV-8B NRE, DT & OT												AH/UH-1 NRE, DT & OT																											
Phase 2B DT & OT	F/A-18 E/F/G NRE, DT & OT												OT																											
Platform Installation													HH-60 H/MH-60R/S INSTALLS																											
Phase 1 (GAS-1)													AV-8BA&B kit proc				AV-8B Installation																							
Phase 2A (Small Antenna)																																								
Phase 2B (Conformal Ant)																									F/A-18 E/F/G A&B kit proc												F/A-18 E/FG			
System Deliveries			81				0				28			130					166				178			184		209												
Sea NAVWAR Acq M/S																																								
Sea Phase 1A	▲	IOC																																						
Sea Phase 1B					△		M/SC LRIP		△	FRP/IOC																														
Sea Phase 2							M/S B						△	M/S C LRIP			△	FRP/IOC																						
Phase 1B GPA DEV	Phase 1B Ground Plane Assembly																																							
Phase 2 Antenna Dev	Technology down select																																							
Development																																								
EDM deliveries													Antenna Dev				△ EDM																							
Platform T&E M/S																																								
Phase 1B DT & OT	Phase 1B TBD Platform NRE, DT												OT																											
Phase 2 DT & OT													TBS Submarine Integration NRE, DT & OT												OT															
Platform Installation																																								
Phase 1A GAS-1	LCAC, MCM, MHC FFG, CG 47, LSD 41, LSD 49																																							
Phase 1B (GAS-1 w/FOAL)													DDG, LCC, CG, CVN, LPD, AGF, FFG, LHA, LHD																											
Phase 2 (Submarines)													SSNs 774, 688.21, 726																											
System Deliveries			18				47				40			50				25			35				28			29												

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Begin GPS Modernization design and development to support JPALS and incorporate new capabilities from space

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EXHIBIT R4, Schedule Profile			DATE:	February 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDTE&E, N / BA-5	0604777N NAVIGATION/ID SYSTEMS	0921 NAVSTAR GPS EQUIPMENT		

WRN-X Development Schedule

[illegible]

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E, N / BA 5	0604777N	NAVIGATION/ID SYSTEMS			0921 NAVSTAR GPS EQUIPMENT			
NAVWAR Air Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
H-60 completes DT	3Q							
Phase 1 NPDM	4Q							
GAS-1 F/O Deliveries Begin	3Q							
AV-8B DT/OT	1-4Q	1-4Q	1-4Q					
Phase 2A 1st platform production integration				1Q				
Phase 2A LRIP			3Q					
Phase 2A FRP					2Q			
Phase 2A IOC							1Q	
Phase 2B Milestone B			2Q					
F/A-18 E/F DT/OT				1-4Q	1-4Q	1-4Q		
Phase 2B Milestone C LRIP						1Q		
Phase 2B 1st platform production integration							1Q	
Phase 2B FRP							1Q	
Phase 2B IOC							3Q	
NAVWAR Sea Profile								
Phase 1A IOC	1Q							
Phase 1B LRIP		1Q						
Phase 1B Operational Test (OT)		1Q	1Q-2Q					
Phase 1B Platform 1st production installation			1Q					
Phase 1B FRP			1Q					
Phase 1B IOC			1Q					
Phase 2 M/S B		1Q						
Phase 2 LRIP				1Q				
Phase 2 Operational Test (OT)				1Q				
Phase 2 Platform 1st production installation					1Q			
Phase 2 FRP					1Q			
Phase 2 IOC					1Q			
WRN X								
Milestone B				1Q				
Milestone C						3Q		

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 37 of 37)

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					R-1 ITEM NOMENCLATURE 0604784N/ Distributed Surveillance System					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY2011	Cost to Complete	Total Program
1300/ ADVANCED DEPLOYABLE SYSTEM (ADS)	32.876	17.416	54.256	57.974	34.022	35.145	40.357	21.513	Continuing	Continuing
RDT&E Articles Qty (Sensors)	4	2	9	12	3					30
RDT&E Articles Qty (ISS)				1						1
RDT&E Articles Qty (TIS)			1	4	1					6
RDT&E Articles Qty (ARS)			1	1						2
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Advanced Deployable System (ADS) is a rapidly deployable, passive acoustic undersea surveillance system that, as the first Increment of development, will be deployed as a module of the Anti-Submarine Warfare (ASW) mission package for the Littoral Combat Ship (LCS). This first effort of the Spiral development program is designated Increment Alpha. It will be deployed and monitored by the LCS in shallow littoral waters to provide the Joint Task Force Commander (JTFC) with data that permits rapid integration with other sources to generate an accurate and reliable maritime tactical picture. ADS is designed to detect, track and report modern diesel electric and nuclear submarines, as well as provide the capability to track surface ships and potentially detect mine-laying activities. The second development effort, designated Increment Bravo, will provide the capability to deploy ADS from an alternate platform. Increment B Development and testing will occur in FY09-FY11. For all increments, ADS consists of four subsystems:</p> <ul style="list-style-type: none"> - A Sensor Subsystem (SS) consisting of hydrophone arrays, small diameter fiber optic cable, connecting the arrays, and pressure vessel containing a power supply, electronics, and lasers for the optical telemetering of the hydrophone data to the in-water Tactical Interface Subsystem (TIS). - A TIS where the data stream is partially processed, compressed, and transmitted to the supporting LCS. - An Analysis and Reporting Subsystem (ARS) aboard the LCS, where the received information data stream is analyzed and target information is reported to a command and control center for further distribution over tactical C4I nets as appropriate. Integrated Undersea surveillance System (IUSS) Mission Planning - These funds provide for the first increment of the Automated IUSS Mission Planning System. This effort builds on work begun in the ADS program (PE 0604784N) to automate array lay down and cable routing plans and allows the mission planner the capability to rapidly update the plan. Functional requirements for Fixed Surveillance Systems (FSS), ADS and Surveillance Towed Array Sensor (SURTASS) will be combined and prioritized with fleet input. Software will be developed as a Global Command and Control System - Maritime (GCCS-M) segment that is at least level 6 DII-COE compliant. - An Installation Support Subsystem (ISS) for rapid deployment of the SS and TIS by the LCS. <p>(</p>										

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2005					
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		0604784N/ Distributed Surveillance System			PROJECT NUMBER AND NAME 1300/ ADVANCED DEPLOYABLE SYSTEM (ADS)					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete	Total Program
Total PE Cost	32.876	17.416	54.256	57.974	34.022	35.145	40.357	21.513	Continuing	Continuing
RDT&E Articles Qty (Sensors)	4	2	9	12	3					30
RDT&E Articles Qty (ISS)				1						1
RDT&E Articles Qty (TIS)			1	4	1					6
RDT&E Articles Qty (ARS)			1	1						2
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION										
<p>The Advanced Deployable System (ADS) is a rapidly deployable, passive acoustic undersea surveillance system that, as the first Increment of development, will be deployed as a module of the Anti-Submarine Warfare (ASW) mission package for the Littoral Combat Ship (LCS). This first effort of the Spiral development program is designated Increment Alpha. It will be deployed and monitored by the LCS in shallow littoral waters to provide the Joint Task Force Commander (JTFC) with data that permits rapid integration with other sources to generate an accurate and reliable maritime tactical picture. ADS is designed to detect, track and report modern diesel electric and nuclear submarines, as well as provide the capability to track surface ships and potentially detect mine-laying activities. The second development effort, designated Increment Bravo, will provide the capability to deploy ADS from an alternate platform. Increment B Development and testing will occur in FY09-FY11. For all increments, ADS consists of four subsystems:</p> <ul style="list-style-type: none">- A Sensor Subsystem (SS) consisting of hydrophone arrays, small diameter fiber optic cable, connecting the arrays, and pressure vessel containing a power supply, electronics, and lasers for the optical telemetering of the hydrophone data to the in-water Tactical Interface Subsystem (TIS).- A TIS where the data stream is partially processed, compressed, and transmitted to the supporting LCS.- An Analysis and Reporting Subsystem (ARS) aboard the LCS, where the received information data stream is analyzed and target information is reported to a command and control center for further distribution over tactical C4I nets as appropriate. Integrated Undersea surveillance System (IUSS) Mission Planning - These funds provide for the first increment of the Automated IUSS Mission Planning System. This effort builds on work begun in the ADS program (PE 0604784N) to automate array lay down and cable routing plans and allows the mission planner the capability to rapidly update the plan. Functional requirements for Fixed Surveillance Systems (FSS), ADS and Surveillance Towed Array Sensor (SURTASS) will be combined and prioritized with fleet input. Software will be developed as a Global Command and Control System - Maritime (GCCS-M) segment that is at least level 6 DII-COE compliant.- An Installation Support Subsystem (ISS) for rapid deployment of the SS and TIS by the LCS. <p>- RDT&E Articles decreased from six (6) to four (4) for FY2004 due to change in Acquisition Strategy. Additional two (2) articles to be purchased in FY 2005 instead. Distribution of Test Articles over FY 06 - 08 was adjusted to match recently developed Test Article Plan approved by PEO. Additional ARS test article in FY06 is needed to support the consolidated LCS Mission Package Computer Environment Integration Lab.</p>										

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA -5	PROGRAM ELEMENT NUMBER AND NAME 0604784N/ Distributed Surveillance System	PROJECT NUMBER AND NAME 1300/ ADVANCED DEPLOYABLE SYSTEM (ADS)		
(U) B. Accomplishments/Planned Program				
ANALYSIS AND REPORTING SYSTEM (ARS)	FY 04	FY05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	6.582	6.058	10.022	10.415
RDT&E Articles Quantity			1	1
<p>FY04 (\$6.582) Provided processing and analysis system for Dual Array Test (DAT). Developed modifications to ARCI for data reduction and communications. Procured and integrated processing and display hardware for an 8 node system. Conducted FAT and JTG evaluation for the integrated hardware software capability. Conducted modification to ALP software to permit planning of field installations. Conduct FAT for ALP and delivered to Commander Undersea Surveillance (CUS). Supported System Engineering and Integrated Test and Evaluation (IT&E).</p> <p>FY05 (\$6.058) Develop ARCI software for in-buoy processing. Develop a reduced power processing capability to run in-buoy processing software and interface with a communications link. Conduct System Integration Test (SIT), FAT, and JTG evaluation on the in-buoy processing software and hardware. Deliver the in-buoy processor and Workstation displays for ADS's Capability Demonstration. Support System Engineering and IT&E. The Mission Planning Plus Up will be used to build array laydown planner and command & control mobilization processor for use on LCS. Develop laydown plans in support of user requirements and environmental input requirements definition.</p> <p>FY06 (\$10.022) Develop the detailed design for the LCS shipboard C4I, data processing and display, and installation planning necessary for the Analysis and Reporting Subsystem (ARS) of the ADS Mission Module. Conduct development and integration of the segments of the ARS of the ADS Mission Module. Provide first ARS test article to support the consolidated LCS Mission Package Computer Environment Integration Lab.</p> <p>FY07 (\$10.415) Conduct Design Verification Tests (DVT's) for the segments of the ARS of the ADS Mission Module. Integrate all ARS segments for subsystem testing and then participate in the ADS System Integration test</p>				
INSTALLATION SUBSYSTEM (ISS)	FY04	FY05	FY06	FY07
Accomplishments/Effort/Subtotal Cost	4.646	6.545	15.100	15.695
RDT&E Articles Quantity				1
<p>FY04 (\$4.646) Conducted preliminary design of LCS deployment prototype system, designated Rapid Two-step Array Dispenser (RTAD). Conducted DVTs and sea tests of the RTAD.</p> <p>FY05 (\$6.545) Complete risk reduction testing of the ISS. Conduct the ISS Preliminary Design Review and initiate detailed design. Network Centric Plus Up will be used to build and demonstrate sensor deployment alternative methods. Centurion Plus Up will be used to build and integrate new sensors into Homeland Defense port surveillance test bed in Port Hueneme area developed in FY04 & conduct additional tests.</p> <p>FY06 (\$15.100) Complete detailed design and conduct the segment Detailed Design Review. Conduct necessary risk reduction testing. Provide inputs to and conduct the System Critical Design Review. Initiate segment fabrication and conduct segment integration testing.</p> <p>FY07 (\$15.695) Continue segment fabrication and integration testing. Conduct the System Integration Test.</p>				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604784N/ Distributed Surveillance System	PROJECT NUMBER AND NAME 1300/ ADVANCED DEPLOYABLE SYSTEM (ADS)																	
(U) B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;">TEST AND EVALUATION (T&E)</th> <th style="width: 15%;">FY04</th> <th style="width: 15%;">FY05</th> <th style="width: 15%;">FY06</th> <th style="width: 15%;">FY07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">3.960</td> <td style="text-align: center;">0.216</td> <td style="text-align: center;">0.800</td> <td style="text-align: center;">1.168</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>					TEST AND EVALUATION (T&E)	FY04	FY05	FY06	FY07	Accomplishments/Effort/Subtotal Cost	3.960	0.216	0.800	1.168	RDT&E Articles Quantity				
TEST AND EVALUATION (T&E)	FY04	FY05	FY06	FY07															
Accomplishments/Effort/Subtotal Cost	3.960	0.216	0.800	1.168															
RDT&E Articles Quantity																			
<p>FY04 (\$3.960) Coordinated test planning, obtained supporting assets, and conducted dual array test (DAT) and prepared for Undersea Dominance Exercise . Coordinated with COMOPTEVFOR to conduct a Development Test Assist (DTA) and an Early Operational Assessment (EOA).</p> <p>FY05 (\$0.216) Conduct Undersea Dominance Exercise. Coordinate with COMOPTEVFOR in the conduct of a DTA and an EOA.</p> <p>FY06 (\$0.800) Coordinate test planning for FY07 System Integration Test (SIT); develop and execute preliminary system deployment test.</p> <p>FY07 (\$1.168) Participate in Undersea Dominance Fleet Exercise; coordinate planning and execution of SIT.</p>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;">TACTICAL INTERFACE SYSTEM (TIS)</th> <th style="width: 15%;">FY04</th> <th style="width: 15%;">FY05</th> <th style="width: 15%;">FY06</th> <th style="width: 15%;">FY07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">7.978</td> <td style="text-align: center;">2.074</td> <td style="text-align: center;">20.356</td> <td style="text-align: center;">21.234</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td style="text-align: center;">1</td> <td style="text-align: center;">4</td> </tr> </table>					TACTICAL INTERFACE SYSTEM (TIS)	FY04	FY05	FY06	FY07	Accomplishments/Effort/Subtotal Cost	7.978	2.074	20.356	21.234	RDT&E Articles Quantity			1	4
TACTICAL INTERFACE SYSTEM (TIS)	FY04	FY05	FY06	FY07															
Accomplishments/Effort/Subtotal Cost	7.978	2.074	20.356	21.234															
RDT&E Articles Quantity			1	4															
<p>FY04 (\$7.978) Developed a communication link to transmit data from a prototype buoy to a receiving surface platform during the at-sea test program. Conducted lab testing between the communication link's radio and the processing system aboard the prototype buoy and between the radio and receiving display system. Awarded contracts for selected BAA topics. Merged BAA development efforts into at-sea test program. Began design of buoy system and associated power sources. Supported System Engineering.</p> <p>FY05 (\$2.074) Modify the communication link's radio to lower system power requirements. Continue interface development and testing between radio, processor, power supply and buoy. Recommend potential BAA technologies into the at-sea test program. Support System Engineering. Start spectrum certification process.</p> <p>FY06 (\$20.356) Design, breadboard, prototype and Design Verification Test (DVT) of the entire subsystem (RF radio, buoy, power, mooring, and anchor.) Develop encryption/decryption solution to satisfy security requirement. Continue spectrum certification process. Fabricate first test article for developmental test program.</p> <p>FY07 (\$21.234) Fabrication test articles to support SIT, TECHEVAL, and OPEVAL. Finalize spectrum certification approval. Support Test and Evaluation IPT.</p>																			

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005															
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604784N/ Distributed Surveillance System	PROJECT NUMBER AND NAME 1300/ ADVANCED DEPLOYABLE SYSTEM (ADS)															
(U) B. Accomplishments/Planned Program																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">SENSOR SUBSYTEM (SS)</td> <td style="width: 16.5%;">FY04</td> <td style="width: 16.5%;">FY05</td> <td style="width: 16.5%;">FY06</td> <td style="width: 16.5%;">FY07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>4.738</td> <td>1.077</td> <td>6.322</td> <td>7.249</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td>4</td> <td>2</td> <td>9</td> <td>12</td> </tr> </table>			SENSOR SUBSYTEM (SS)	FY04	FY05	FY06	FY07	Accomplishments/Effort/Subtotal Cost	4.738	1.077	6.322	7.249	RDT&E Articles Quantity	4	2	9	12
SENSOR SUBSYTEM (SS)	FY04	FY05	FY06	FY07													
Accomplishments/Effort/Subtotal Cost	4.738	1.077	6.322	7.249													
RDT&E Articles Quantity	4	2	9	12													
<p>FY04 (\$4.738) Executed contracting efforts to produce additional test articles. Packaged and delivered test hardware in support of the at-sea testing. Provided engineering support for the at-sea test program. Supported system engineering preparations for the Milestone B contracting effort. Revised Acquisition Strategy, resulting in a decrease in test articles from ten (10) to six (6).</p> <p>FY05 (\$1.077) Maintain support during the ADS at-sea testing and refurbish test articles for additional testing. Plan for the resolution of any discrepancies identified during testing. Finalize inputs to the technical data package. Support Milestone B and prepare for production of hardware in the System Development & Demonstration (SDD) phase.</p> <p>FY06 (\$6.322) Trade studies to reduce system LLC based on new requirement and LCS centric. Low-cost cable, lighter and less expensive pressure vessels, cheaper array unit cost are a few high-impact candidates. Continue manufacturing test articles to support at-sea test demand.</p> <p>FY07 (\$7.249) Continue manufacturing test articles to support SIT, TECHEVAL, OPEVAL. Support T&E IPT. Investigate activation.</p>																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">SYSTEM ENGINEERING PROGRAM MANAGEMENT (SEPM)</td> <td style="width: 16.5%;">FY04</td> <td style="width: 16.5%;">FY05</td> <td style="width: 16.5%;">FY06</td> <td style="width: 16.5%;">FY07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>2.974</td> <td>1.446</td> <td>1.656</td> <td>2.213</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>			SYSTEM ENGINEERING PROGRAM MANAGEMENT (SEPM)	FY04	FY05	FY06	FY07	Accomplishments/Effort/Subtotal Cost	2.974	1.446	1.656	2.213	RDT&E Articles Quantity				
SYSTEM ENGINEERING PROGRAM MANAGEMENT (SEPM)	FY04	FY05	FY06	FY07													
Accomplishments/Effort/Subtotal Cost	2.974	1.446	1.656	2.213													
RDT&E Articles Quantity																	
<p>FY04 (\$2.974) Provided program management support for the ADS project office. Monitored government and contractor technical, schedule, and cost performance. Oversaw preparation and conduct of at-sea testing, including the fabrication and delivery of test equipment. Developed contractual and technical elements in support of system development and integration contract award. Initiated contracting efforts for at sea termination. Conducted program review with MDA to validate all documentation required for redirected program. Initiated preparations for Milestone B decision review in FY05. Coordinated with LCS program office to develop an Interface Requirements Document. Completed the Operational Concept document, System Performance specifications, and Environmental Specifications.</p> <p>FY05 (\$1.446) Continue Project Management support for the ADS project office. Monitor government and contractor technical, schedule, and cost performance. Conduct at sea capability demonstration. Continue development of documentation required for Milestone B decision. Develop contractual and technical elements in support of system development and integration contract award. Hold Milestone B decision review with MDA and gain approval to award SDD contract. Complete the System Functional Architecture, Item Performance specifications, and Equipment and Software Subsystem-level Design. Conduct cost trade off studies, analyze and track technical performance measures, perform configuration and interface management, hold technical reviews and audits, conduct risk management. Continue to coordinate with LCS Mission Module and Ship program offices to refine the Interface Requirements Document.</p> <p>FY06 (\$1.656) Continue Project Management support for the ADS project office. Monitor government and contractor technical, schedule, and cost performance. Complete the detailed design and begin engineering development models and the associated component testing. Continue to conduct cost trade off studies, analyze and track technical performance measures, perform configuration and interface management, hold technical reviews and audits, conduct risk management. Continue to coordinate with LCS Mission Module and Ship program offices to develop the Interface Control Document.</p> <p>FY07 (\$2.213) Continue Project Management support for the ADS project office. Monitor government and contractor technical, schedule, and cost performance. Using witness subsystem integration testing and conduct system integration testing with the engineering development models. Continue to conduct cost trade off studies, analyze and track technical performance measures, perform configuration and interface management, hold technical reviews and audits, conduct risk management. Initiate preparations for Milestone C decision review in FY08. Continue to coordinate with LCS Mission Module and Ship program offices to develop the Interface Control Document.</p>																	

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 5 of 11)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
			February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N / BA-5	0604784N/ Distributed Surveillance System	1300/ ADVANCED DEPLOYABLE SYSTEM (ADS)		
(U) C. PROGRAM CHANGE SUMMARY:				
	FY 2004	FY 2005	FY 2006	FY 2007
FY05 President's Budget	30.907	7.776	65.131	67.637
FY06 President's Budget	30.878	17.416	54.256	57.974
Total Adjustments	-0.029	9.640	-10.875	-9.663
Summary of Adjustments				
RCR Limit ADS Test Articles to ORD Threshold SEA SHIELD			-11.000	-10.000
Inflation Savings	-0.029		0.487	0.657
Network Centric Warfare Congressional Add		1.000		
Centurion Surveillance Congressional Add		3.900		
MSS Mission Planning Congressional Add		4.900		
Undistributed congressional reductions		-0.101		
Miscellaneous Adjustments		-0.059	-0.362	-0.32
Subtotal	0.000	9.640	-10.875	-9.663
(U) Schedule:				
- Prime contract award schedule slipped from JUL04 to SEP04				
- Milestone 'B' schedule changed from MAY05 to SEP05 due to delay in prime contract award.				
(U) Technical:				
- N/A				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification

DATE:

February 2005

APPROPRIATION/BUDGET ACTIVITY

RDT&E, N /

BA-5

PROGRAM ELEMENT NUMBER AND NAME

0604784N/ Distributed Surveillance System

PROJECT NUMBER AND NAME

1300/ ADVANCED DEPLOYABLE SYSTEM (ADS)

(U) D. OTHER PROGRAM FUNDING SUMMARY: N/A

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
LCS OPN BLI 160000	-	-	-	-	44.742	70.600	67.793	36.217	-	219.352
ADS OPN PE0204311N: CLANDESTINE DEVEL.	-	-	-	-	-	-	-	16.000	Continuing	Continuing
LCS Mission Module RDT&E PE0603581N	4.000	7.000	6.765	4.945	3.790	-	-	-	-	26.500

- ADS LRIP procurement scheduled to be funded by LCS Program. LRIP procurement quantities as follows: FY08 - 1 ADS System; FY09 - 2 ADS Systems; FY10 - 2 ADS Systems; FY11 - 1 ADS System
 - As the ASW Mission Module (MM), ADS is receiving RDT&E funds from LCS MM Program. Funds provided to augment ADS Systems Engineering efforts in connection with ADS integration and installation with the Littoral Combat Ship (LCS).
 - ADS OPN for FY11 provided for WCC Clandestine Procurement efforts.

(U) E. ACQUISITION STRATEGY(AS):

Acquisition Strategy: ADS sole source contract awarded SEP04

		FY04		FY05		FY06		FY07
PROGRAM MILESTONES		PROGRAM REVIEW		MILESTONE B		PROGRAM REVIEW		PROGRAM REVIEW
ENGINEERING MILESTONES		SYSTEM REQUIREMENT REVIEW (SRR), SYSTEM FUNCTIONAL REVIEW (SFR)		PRELIMINARY DESIGN REVIEW (PDR), INTEGRATED BASELINE REVIEW (IBR)		CRITICAL DESIGN REVIEW (CDR); SYSTEM DESIGN AND DEVELOPMENT		SYSTEM DESIGN AND DEVELOPMENT
T&E MILESTONES		DUAL ARRAY TEST		UNDERSEA DOMINANCE		FLEET TEST/EXERCISE		SYSTEM INTEGRATION TEST (SIT)
CONTRACT MILESTONES		BROAD AGENCY ANNOUNCEMENT (BAA) AWARDED. SYSTEM DEVELOPMENT AND DEMONSTRATION (SDD) INITIATED		SYSTEM DEVELOPMENT AND DEMONSTRATION (SDD) AWARDED		CONTINUE SDD		CONTINUE SDD

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Exhibit R-2, RDTEN Budget Item Justification

(Exhibit R-2, page 7 of 11)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)												DATE:		
February 2005														
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA 5			0604784N/ Distributed Surveillance System			1300/ ADVANCED DEPLOYABLE SYSTEM (ADS)								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Prime Mission Product Development	C/CPAF	LMFS MANASSAS, VA	89.334										89.334	89.334
Prime Mission Product Development	C/CPAF	LMFS MANASSAS, VA	49.852	2.972	11/03								52.824	52.824
Prime Mission Product Development	C/CPAF	LMFS MANASSAS, VA	0.000	8.000	09/04	4.123	11/04	45.500	11/05	46.500	11/06	Continuing	Continuing	Continuing
Government Engineering Support	WX	SSC SAN DIEGO, CA	51.314	1.699	11/03	0.262	11/04	2.125	11/05	2.337	11/06	Continuing	Continuing	Continuing
Engineering Support Services	SS/CPFF	UNIVERSITY LABS	14.241	1.168	11/03	2.225	11/04	1.500	11/05	2.650	11/06	Continuing	Continuing	Continuing
Software Development	C/CPFF	ORINCON SAN DIEGO, CA	16.534	4.003	11/03	3.400	04/05						23.937	23.937
Prime Mission Product Development	BAA	HARRIS/ LM PNW	0.000	2.360	11/03								2.360	2.360
Other Contracts			17.575	0.137	11/03	4.415	04/05						22.127	22.127
Other Activities			19.037			0.170							19.207	19.207
Subtotal Product Development			257.887	20.339		14.595		49.125		51.487		Continuing	Continuing	Continuing
Remarks: FY05 ORINCON funding is Congressional Plus Up. FY05 Other Contracts (.900 Proginney and 3.500 Northrup Grumman) funding is Congressional Plus Up .														
Contract Engineering Support	C/CPFF	AMRON SAN DIEGO ,CA	8.040										8.040	8.040
Government Engineering Support	WX	SSC SAN DIEGO,CA	8.437	1.321	11/03	1.431	11/04	0.930	11/05	0.980	11/06	Continuing	Continuing	Continuing
Engineering Support Services	SS/CPFF	UNIVERSITY LABS		0.390	11/03	0.002	11/04	0.300	11/05			Continuing	Continuing	Continuing
PMTO Contracts			29.326	2.037	11/03	0.272	11/04						31.635	31.635
Other Activities			5.741	0.359	11/03	0.215	11/04	0.150	11/05	0.250	11/06		6.715	6.715
Subtotal Support			51.544	4.107		1.920		1.380		1.230		Continuing	Continuing	Continuing
Remarks:														

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 8 of 11)

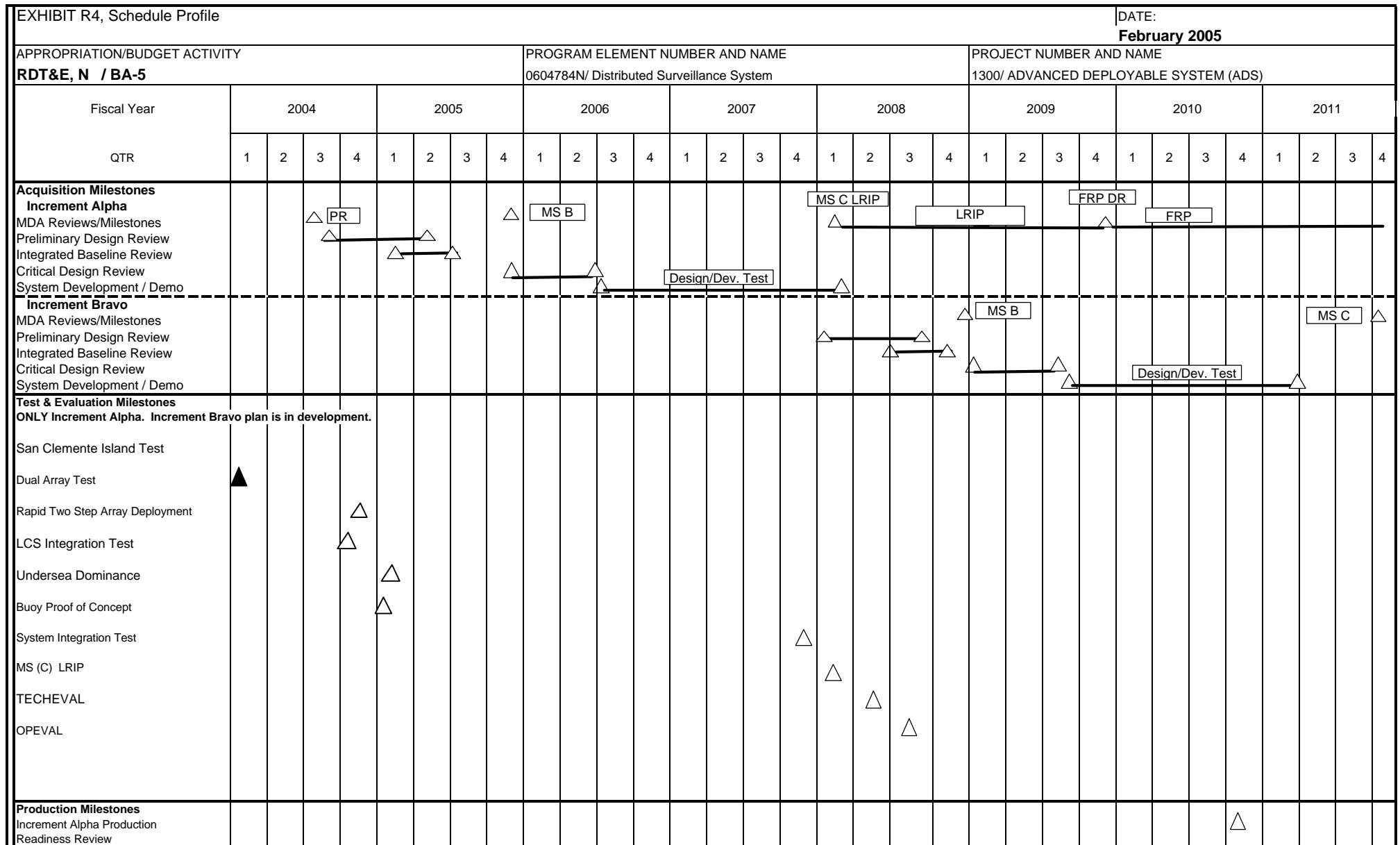
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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)												DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA 5			PROGRAM ELEMENT 0604784N/ Distributed Surveillance System			PROJECT NUMBER AND NAME 1300/ ADVANCED DEPLOYABLE SYSTEM (ADS)								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation		OTHER CONTRACTS	7.625			0.003	11/04						7.628	7.628
Developmental and Operational Test	WX	SSC-SAN DIEGO,CA	14.749	3.447	11/04	0.339	11/04	1.500	11/05	2.000	11/06	Continuing	Continuing	Continuing
Developmental and Operational Test		OTHER ACTIVITIES	4.658	0.120	11/04	0.021	11/04	0.170	11/05	0.170	11/06	Continuing	Continuing	Continuing
Developmental and Operational Test	SS/CPFF	UNIVERSITY LABS		1.208	11/04	0.061	11/04	1.000	11/05	1.000	11/06	Continuing	Continuing	Continuing
Subtotal T&E			27.032	4.775		0.424		2.670		3.170		Continuing	Continuing	Continuing
Remarks:														
Program Management Support		OTHER ACTIVITIES		1.657	11/03	0.477	11/04	1.081	11/05	2.087	11/06	Continuing	Continuing	
Subtotal Management			0.000	1.657		0.477		1.081		2.087		Continuing	Continuing	Continuing
Remarks:														
Total Cost			336.463	32.876		17.416		54.256		57.974		Continuing	Continuing	Continuing
Remarks:														

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* Not required for Budget Activities 1, 2, 3, and 6

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 10 of 11)

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Exhibit R-4a, Schedule Detail

DATE:

February 2005

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT			PROJECT NUMBER AND NAME				
RDT&E, N/ BA-5	0604784N/ Distributed Surveillance System			1300/ ADVANCED DEPLOYABLE SYSTEM (ADS)				
Schedule Profile (Increment Alpha; Increment Bravo plan in development)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
SENSOR SUBSYSTEM								
Gold Array (First Article) Fabrication								
At-Sea Test Production Array								
Complete production of 9 test articles	Q1							
Complete production of additional test articles	Q4							
EMD system Preliminary Design Review			Q1					
EMD system Critical Design Review			Q2					
EMD system SIT system manufacture				Q3				
INSTALLATION SUBSYSTEM								
Launch & Control Segments Design & Build	Q1							
Prototype system spiral development		Q3						
EMD system Preliminary Design Review		Q2						
EMD system Critical Design Review			Q2					
EMD system SIT system manufacture				Q3				
Refurbish / Repair for Fleet use						Q2		
TACTICAL INTERFACE								
BAA / Concept Exploration								
Award study contracts	Q1							
Mock-up / engineering model	Q4							
Prototype system spiral development		Q3						
EMD system Preliminary Design Review		Q2						
EMD system Critical Design Review			Q2					
EMD system SIT system manufacture				Q3				
Refurbish / Repair for Fleet use						Q2		
ANALYSIS & REPORTING SUBSYSTEM								
Mission Planner Upgrade	Q1							
Prototype Interface Description		Q1						
Prototype system spiral development		Q3						
EMD system Critical Design Review		Q2						
EMD system Detailed Design Review			Q2					
EMD system manufacture to support LCS Integration Lab			Q4					
EMD system SIT system manufacture				Q3				
Refurbish / upgrade & prepare for Fleet use						Q2		
SYSTEM TESTS								
Dual Array Test	Q1							
Undersea Dominance		Q1						
At- Sea Demonstration			Q3					
System Integration Test				Q4				
TECHEVAL					Q2			
OPEVAL					Q3			
CONTRACT								
LRIP					Q1	Q1		
FRP						Q4		
PRR							Q4	

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[illegible]

This Program Element continues development efforts budgeted in program element 0603800N prior to FY 2002.

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Joint Strike Fighter program will develop and field a family of aircraft that meets the needs of the USN, USAF, USMC, and allies, with maximum commonality among the variants, consistent with National Disclosure Policy (NDP), to minimize life cycle costs. This is a joint program with no executive service. Navy and Air Force each provide approximately equal shares of annual funding to the program. The United Kingdom and 7 other International countries are participants in the JSF Program.

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604800N, JOINT STRIKE FIGHTER (JSF) PROGRAM				PROJECT NUMBER AND NAME 2261, JOINT STRIKE FIGHTER (JSF) PROGRAM			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	2,081.930	2,145.239	2,393.013	2,287.055	1,944.629	1,518.126	1,207.520	751.608
RDT&E Articles Qty			1	2	6	6		

This Program Element continues development efforts budgeted in program element 0603800N prior to FY 2002.

Quantity of 15 RDT&E articles reflect flight test articles; 8 ground test articles are also budgeted in SDD

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Joint Strike Fighter program will develop and field a family of aircraft that meets the needs of the USN, USAF, USMC, and allies, with maximum commonality among the variants, consistent with National Disclosure Policy (NDP), to minimize life cycle costs. This is a joint program with no executive service. Navy and Air Force each provide approximately equal shares of annual funding to the program. The United Kingdom and 7 other International countries are participants in the JSF Program.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604800N, JOINT STRIKE FIGHTER (JSF) PROGRAM	PROJECT NUMBER AND NAME 2261, JOINT STRIKE FIGHTER (JSF) SDD		
B. Accomplishments/Planned Program (Breakout reflects USN, USAF, UK and other International funding)				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	3,348.068	3,757.000	4,409.000	3,911.000
<p>System Development and Demonstration (SDD) for Air System with Lockheed Martin including International Commonality Effort (ICE) commenced execution in FY02. FY 04, FY05, FY06 and FY07 continue SDD execution of the Air System, including airframe, vehicle systems, mission systems, autonomic logistics, systems engineering and integrated test efforts.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	868.969	797.000	711.000	421.000
<p>System Development and Demonstration (SDD) for F135 Propulsion System with Pratt & Whitney including International Commonality Effort (ICE) commenced in FY02. FY 04, FY05, FY06 and FY07 continue SDD execution of the F135 Propulsion System, including engine testing, autonomic logistics, integration and performing technology maturation efforts.</p>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	141.578	231.000	236.000	370.000
<p>FY04, FY05, FY06 and FY07 continue the Fighter Engineer Team (General Electric/Rolls Royce) F136 development for a second, interchangeable, JSF engine for competition in production (previously begun in associated program elements 0603800N and 0603800F). Efforts include technology maturation, engine testing, autonomic logistics and integration.</p>				

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Exhibit R-2, RDTEN Budget Item Justification
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B. Accomplishments/Planned Program (Cont.)

SDD Systems Engineering (SE) and Mission Support activities, including modeling, simulation and analysis (MS&A) efforts, risk reduction activities and program office functions commenced in FY02. FY04, FY05, FY 06 and FY07 continue SE and Mission Support activities, including MS&A, risk reduction, Government verification and test, non-test systems engineering and technical support and program office functions.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604800N, JOINT STRIKE FIGHTER (JSF) PROGRAM	PROJECT NUMBER AND NAME 2261, JOINT STRIKE FIGHTER (JSF) SDD		

C. PROGRAM CHANGE SUMMARY:

Funding:	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
Previous President's Budget:	2,159.197	2,264.507	2,493.847	2,281.780
Current BES/President's Budget	2,081.930	2,145.239	2,393.013	2,287.055
Total Adjustments:	-77.267	-119.268	-100.834	5.275
Summary of Adjustments				
Congressional program reductions		-134.000		
Congressional undistributed reductions		-20.328		
Congressional rescissions				
SBIR/STTR Transfer	-56.211			
Other adjustments		-2.940	-124.621	-23.099
Economic Assumptions	-2.047		23.787	28.374
Reprogrammings	-19.009			
Congressional increases		38.000		
Subtotal	-77.267	-119.268	-100.834	5.275

Schedule: This submission reflects JSF Program Replan and is subject to refinement pending completion of the updated Block Plan and Test Plan. Please see R-4A Schedule Exhibit for detailed schedule changes.

Technical: Additional design work and scope is required to achieve weight reductions in the STOVL variant, necessitating increase in cost and schedule.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME			
RDT&E, N / BA-5		0604800N, JOINT STRIKE FIGHTER (JSF) PROGRAM			2261, JOINT STRIKE FIGHTER (JSF) SDD			
<p>D. OTHER PROGRAM FUNDING SUMMARY: This is a joint program with no executive service. Program Element 0604800F continues USAF development efforts budgeted in 0603800F prior to FY 2002. The United Kingdom and multiple other countries are participants in the SDD phase of JSF.</p>								
<u>RDT&E:</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
0604800F	2,021.034	2,181.272	2,474.763	2,192.584	1,914.385	1,578.312	1,282.774	839.995
International Partner Funding	517.809	750.300	801.500	705.140	480.670	228.260	166.670	137.010
<p>RELATED RDT&E: Funding prior to JSF SDD (FY94-FY01): USN PE 0603800N \$1,950.617; USAF PE 0603800F \$1,907.352; DARPA PE 0603800E \$118.006; and International Partner contributions of \$253.921 for a total of \$4,229.896.</p>								
<p>RELATED PROCUREMENT:</p>								
	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
0214146N (Quantity)				247.238 (0)	1,957.609 (10)	4,483.630 (32)	4,350.714 (36)	3,584.416 (33)
USN Initial Spares					85.322	153.089	167.744	148.682
0207142F (Quantity)			152.377 (0)	1,095.027 (5)	1,386.200 (8)	2,126.635 (15)	2,531.230 (20)	3,574.468 (31)

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Exhibit R-2, RD TEN Budget Item Justification
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME			
RDT&E, N / BA-5			0604800N, JOINT STRIKE FIGHTER (J:				2261, JOINT STRIKE FIGHTER (JSF) SDD			
			<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
<u>RELATED SPARES AND REPAIR PARTS:</u>										
USN							85.322	153.089	167.744	148.682
			<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
<u>RELATED MILCON:</u>										
0207142F			19.060	9.965	0.000	0.000	85.402	79.998	TBD	TBD
91211F			1.000	0.900						
24146N			24.370							

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 7 of 14)

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604800N, JOINT STRIKE FIGHTER (JS	PROJECT NUMBER AND NAME 2261, JOINT STRIKE FIGHTER (JSF) SDD

E. ACQUISITION STRATEGY:

Activities in the prior phase of JSF centered around three distinct objectives to provide a sound foundation for the start of SDD in Fall 2001:

- (1) facilitated the Services' development of fully validated, affordable operational requirements;
- (2) lowered risk by investing in and demonstrating key leveraging technologies that lowered the cost of development, production and ownership; and
- (3) demonstrated operational concepts.

Early warfighter and technologist interaction was an essential aspect of the requirements definition process, and achieved JSF affordability goals. To an unprecedented degree the JSF Program used cost-performance trades early, as an integral part of the weapon system development process. The Services defined requirements through an iterative process, balancing weapon system capability against life cycle cost at every stage. Each iteration of requirements was provided to industry. They evolved their designs and provided cost data back to the warfighters. The warfighters evaluated trades and made decisions for the next iteration. This iterative process produced iterations of the Services' Joint Interim Requirements Documents in 1995, 1997, 1998 and culminated in the approved joint Operational Requirements Document (ORD) in FY 2000.

A sizable technology maturation effort was conducted to reduce risk and life cycle cost (LCC) through technology maturation and demonstrations. The primary emphasis was on technologies identified as high payoff contributors to affordability, supportability, survivability, and lethality. Numerous demonstrations were accomplished to validate performance and life cycle cost impact to component, subsystem, and the total system.

In November 1996, contracts were awarded to Boeing and Lockheed Martin for Concept Demonstration Programs. These competing contractors built and flew concept demonstrator aircraft, conducted concept unique ground demonstrations, and refined their respective weapon system concepts. Specifically, Boeing and Lockheed Martin demonstrated commonality and modularity, STOVL hover and transition, and low speed handling qualities of their respective weapon system concepts. Pratt and Whitney provided propulsion hardware and engineering support. General Electric continued development of a second, interchangeable, engine for competition in production.

Following evaluation of proposals and a favorable Milestone B decision, the JSF Program entered SDD on 26 October 2001 with SDD contract awards to Lockheed Martin and Pratt & Whitney. The SDD plan reflects a block approach, based on open systems architecture, for accomplishing aircraft and weapons integration. General Electric continues propulsion development efforts.

DoN procurement is planned to begin in FY 2008 with advance procurement in FY 2007. USAF procurement is planned to begin in FY 2007 with advance procurement in FY 2006.

The 14 Oct 04 DAB reiterated JSF Acquisition Strategy and updated program schedule.

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 8 of 14)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604800N, JOINT STRIKE FIGHTER (JSF) PROGRAM			2261, JOINT STRIKE FIGHTER SDD						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hdw Develop - Air System	C/CPAF	Lockheed Martin, Ft. Worth TX	6,797.619	3,757.000	10/04	4,409.000	10/05	3,911.000	10/06	TBD	TBD	19,670.105
Award Fees (Non-Add -Budgeted)			(588.088)	(333.000)		(280.000)		(285.000)				
Award Fees (% Funded to Date)			44%									
Primary Hdw Develop - Air System	SS/BOA	Lockheed Martin	5.500									
Primary Hdw Develop - Air System	SS/IDIQ	Lockheed Martin	1.000									
Primary Hdw Develop - F135 Engine	SS/CPAF	Pratt & Whitney, Hartford CT	2,372.930	786.000	10/04	709.000	10/05	421.000	10/06	TBD	TBD	4,850.529
Award Fees (Non-Add -Budgeted)			(234.440)	(94.000)		(71.000)		(75.000)				
Award Fees (% Funded to Date)			65%									
Prim Hdw Dev - F135 Engine	SS/BOA	Pratt & Whitney	35.021	11.000	10/04	2.000	10/05					
Subtotal SDD			9,212.070	4,554.000		5,120.000		4,332.000		TBD	TBD	
Primary Hdw Dev - F136 Eng Phase IIlb	SS/CPAF	General Electric, Cincinnati OH	367.909	23.000	10/04					TBD	TBD	468.444
Award Fees (Non-Add - Budgeted)			(35.542)	(7.000)								
Award Fees (% Funded to Date)			57%									
Primary Hdw Dev - F136 Eng	SS/BOA	General Electric	1.961	1.000	10/04	9.000	10/05	8.000	10/06	TBD	TBD	
Primary Hdw Dev - F136 Eng	SS/IDIQ	General Electric	3.000									
Primary Hdw Dev - F136 Eng SDD	SS/CPAF	General Electric		207.000	10/04	227.000	10/05	362.000	10/06	TBD	TBD	
Award Fees (Non-Add)												
The GE Target Value of F-136 Engine Contract reflects the negotiated value of the current Phase IIlb; development is under negotiation with expected contract award in 4Q FY05. Cost to Complete and Total Cost are TBD pending finalization of program replan and approval by DAB.												

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Exhibit R-3 Cost Analysis								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604800N, JOINT STRIKE FIGHTER (JSF) PROGRAM			2261, JOINT STRIKE FIGHTER SDD						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
System Eng/Mission Support	Various	NAWC Lakehurst	2.783	0.600	10/04	0.700	10/05	0.700	10/06	TBD	TBD	
	Various	NAWC Patuxent River	135.283	64.000	10/04	68.000	10/05	105.000	10/06	TBD	TBD	
	Various	NAWC China Lake	38.542	36.000	10/04	38.000	10/05	51.000	10/06	TBD	TBD	
	Various	ASC	20.173	7.605	10/04	8.822	10/05	16.410	10/06	TBD	TBD	
	Various	AFFTC	37.908	26.915	10/04	31.222	10/05	45.527	10/06	TBD	TBD	
	Various	ESC	7.225	1.633	10/04	1.894	10/05	10.235	10/06	TBD	TBD	
	Various	Other	162.499	121.731	10/04	129.250	10/05	195.101	10/06	TBD	TBD	
	Various	Miscellaneous	16.230	5.400	12/04	5.500	12/05	14.355	12/06	TBD	TBD	
	C/CPAF	Sverdrup/Anteon, Arlington VA	13.349	5.278	12/04	5.433	12/05	14.515	12/06	TBD	TBD	
	SS/CPFF	AI-ES, Arlington, VA	19.120	7.127	12/04	8.300	12/05	13.135	12/06	TBD	TBD	
Subtotal System Eng/Mission Support			453.112	276.289		297.121		465.978		TBD	TBD	
Subtotal Product Development			10,038.052	5,061.289		5,653.121		5,167.978		TBD	TBD	

Remarks:

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Exhibit R-3 Cost Analysis (page 2)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604800N / JOINT STRIKE FIGHTER (JSF) PROGRAM			2261 / JOINT STRIKE FIGHTER S						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Included in Product Development											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Program Mgmt Support	SS/CPFF	Stanley, Arlington VA	25.000	12.211	10/04	12.797	10/05	13.309	10/06	TBD	TBD	
	SS/CPFF	Aegis, Arlington VA	7.172	3.311	12/04	3.358	12/05	3.492	12/06	TBD	TBD	
Subtotal Management			32.172	15.522		16.155		16.801		TBD	TBD	
Remarks:												
Total Cost			10,070.224	5,076.811		5,669.276		5,184.779		TBD	TBD	
Remarks: Prior Years reflect \$4,466,337 USN / \$4,379.834 USAF / \$1,249,969 International / Total \$10,070,224 FY 2005 reflects \$2,145,239 USN / \$2,181,272 USAF / \$750.300 International / Total \$5,076,811 FY 2006 reflects \$2,393,013 USN / \$2,474,763 USAF / \$801,500 International / Total \$5,669,276 FY 2007 reflects \$2,287,055 USN / \$2,192,584 USAF / \$705,140 International / Total \$5,184,779												

R-1 SHOPPING LIST - Item No.

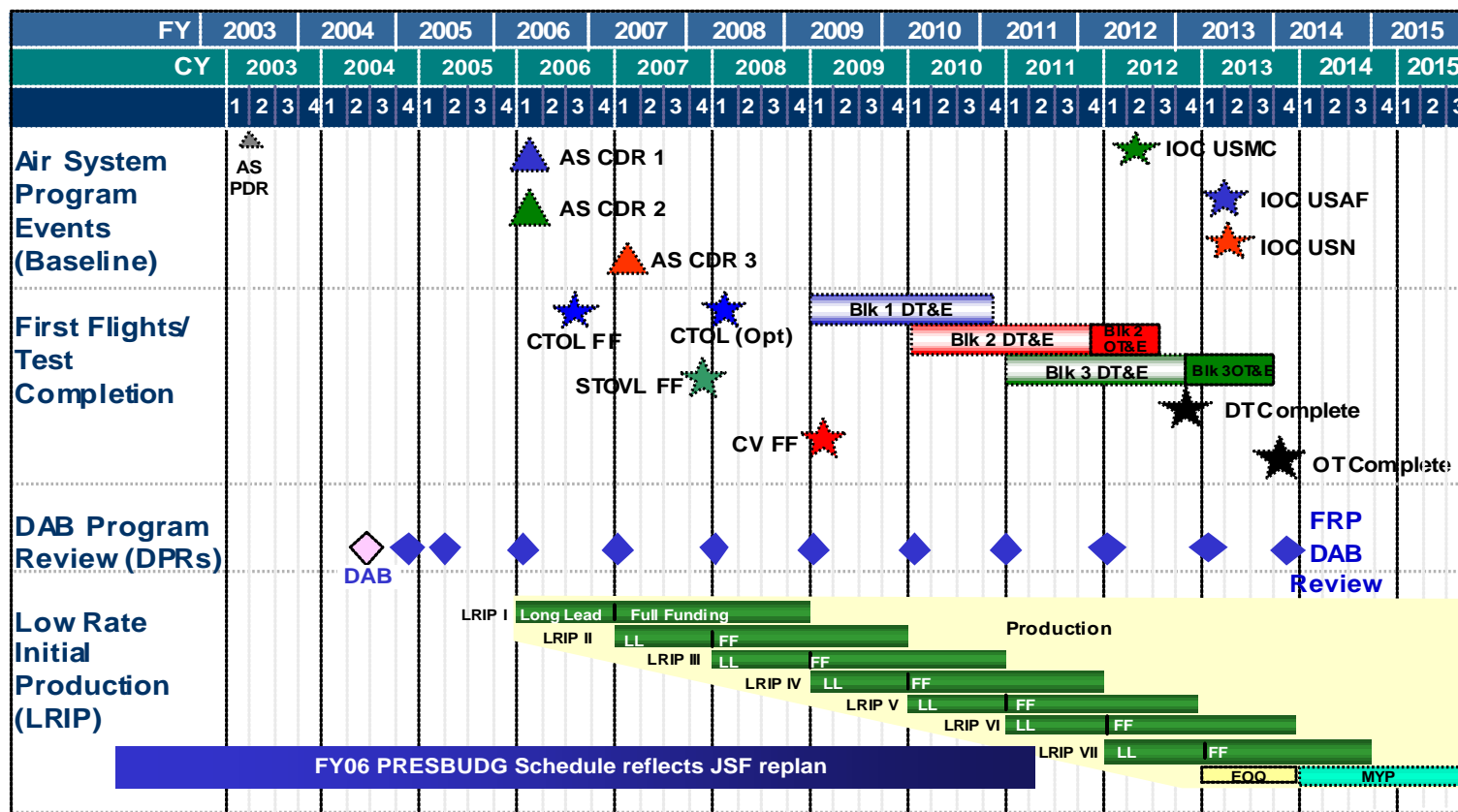
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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 11 of 14)



Replan JSF Top Level Schedule



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Exhibit R-2, RD TEN Budget Item Justification

~~(Exhibit R-2, page 12 of 14)~~

R-1 SHOPPING LIST - Item No. 133

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE:		
						February 2005		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME		
RDT&E, N / BA-5		0604800N / JOINT STRIKE FIGHTER (JSF) PROGRAM				2261 / JOINT STRIKE FIGHTER SDD		
Schedule Profile		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Milestone B and Award of SDD Contract								
Air System Requirements Review (ASRR)								
Integrated Baseline Reviews at Lockheed Martin, Pratt & Whitney and GE								
Defense Acquisition Board (DAB)		3Q						
DAB Program Review (DPR)			1Q, 2Q	2Q	2Q			
Preliminary Design Review (PDR) for Air System								
Design Integration & Maturation Review (DIMR)								
Critical Design Reviews (CDRs)				CDR 1&2, 2Q	CDR 3, 2Q			
CTOL (Opt)								
CTOL First Flight				4Q				
STOVL First Flight								
CV First Flight								
Block 1, DT&E								
Block 1, OT&E								
Block 2, DT&E								
Block 2, OT&E								
Block 3, DT&E								
Block 3, OT&E								
USMC Initial Operational Capability (IOC)								
USAF IOC								
USN IOC								
Milestone C								

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Exhibit R-2, RD TEN Budget Item Justification

(Exhibit R-2, page 13 of 14)

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Termination Liability Funding
For Major Defense Acquisition Programs,
RDT&E Funding
(\$000)

Program	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
0604800N JSF								
Lockheed	701	602	486	302	228	160	103	73
Pratt & Whitney	134	205	63	26	39	17	31	24
General Electric	0	122	TBD	TBD	TBD	TBD	TBD	TBD

- * Lockheed Termination Liability in FY02/03 was 300M; FY12 reflects -73M resulting in net zero for the program
- * Pratt and Whitney termination liability in FY02/03 was 201M; FY05-FY11 is TBD pending current replan estimates and reductions in FY05 congressional appropriation /conference language
- * General Electric termination liability in FY02/03 was 35M for F136 Phase III B resulting in a net zero for the program; F136 termination liability TBD after SDD contract award

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EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAV Engineering & Manufacturing				R-1 ITEM NOMENCLATURE 0604910N Navy IT DEV / MOD				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE0604910N Cost	0.532	0.677	0.715	0.732	0.299	0.000	0.000	0.000
Smart Card Program	0.532	0.677	0.715	0.732	0.299	0.000	0.000	0.000
Quantity of RDT&E Articles	Not Applicable							
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
(U)B. JUSTIFICATION OF BUDGET ACTIVITY: Smart Card funding was realigned from AAUSN to NAVSUP during the FY 03 Don Budget Review.								

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROJECT NUMBER AND NAME T2902 Smart Card Program						
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	0.532	0.677	0.715	0.732	0.299	0.000	0.000	0.000
RDT&E Articles Qty	Not Applicable							
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Department of the Navy e-Business Operations Office is chartered to provide leading edge enabling technologies to Sailors and Marines through the use of a single multi-functional Smart Card, now referred to as the Common Access Card (CAC). Investigation of new technologies will be accomplished through interface proofs of concept demonstrating new Smart Card related technologies associated with the wireless industry, other industry standard operating systems, and biometric technology. Pilot demonstrations will also be conducted to identify and provide seed money for the development of software applications supporting functional requirements across the DoN. The goal of these projects will be to apply Smart Card Technology to streamlined processes enhancing cost effectiveness and improving operational readiness and quality of life.</p>								

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Exhibit R-2a pg 1 T2902

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604910N Navy IT DevMod	PROJECT NUMBER AND NAME T2902 Smart Card Program		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.532			
RDT&E Articles Quantity				
FY04 RDTE funding was used to support the Visitor Security Process (VSP) CAC Pilot. VSP demonstrated the integration of the CAC, NMCI and PKI to make the critical visit request process more efficient and effective.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		0.677		
RDT&E Articles Quantity				
For FY05, pilot candidate submission and evaluation is not completed, but CAC pilot funding could be used in 3 principal areas: 1) To support the Contractor Verification System (CVS)--Phase 2, which automates the DD Form 1172 process to better control and validate the issuance of CACs to contractor personnel. 2) To support DON efforts to implement the CAC and Biometrics Roadmap document (DMDC, April 2004). 3) Take next steps beyond our previous CAC access control pilots to prototype solutions to piggybacking and personnel accountability issues, in support of the contactless module expected to be added to the next-generation CAC.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			0.715	
RDT&E Articles Quantity				
FY 06 funding will be used to initiate 2-3 pilot projects to add functionality and utility to the CAC to enhance cost effectiveness and improve operational readiness and quality of life.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost				0.732
RDT&E Articles Quantity				
FY 07 funding will be used to initiate 2-3 pilot projects to add functionality and utility to the CAC to enhance cost effectiveness and improve operational readiness and quality of life.				

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Item No. 134

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Exhibit R-2a pg 2 T2902

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																																											
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604910N Navy IT Dev/Mod	PROJECT NUMBER AND NAME T2902 Smart Card Program																																																																																												
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"></th> <th style="text-align: right;">FY 2004</th> <th style="text-align: right;">FY 2005</th> <th style="text-align: right;">FY 2006</th> <th style="text-align: right;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Last President's Budget:</td> <td style="text-align: right;">0.546</td> <td style="text-align: right;">0.695</td> <td style="text-align: right;">0.710</td> <td style="text-align: right;">0.725</td> </tr> <tr> <td>Adjustments since the last President's Budget:</td> <td style="text-align: right;">-0.014</td> <td style="text-align: right;">-0.018</td> <td style="text-align: right;">0.005</td> <td style="text-align: right;">0.007</td> </tr> <tr> <td>Current Baseline</td> <td style="text-align: right;">0.532</td> <td style="text-align: right;">0.677</td> <td style="text-align: right;">0.715</td> <td style="text-align: right;">0.732</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional program reductions</td> <td></td> <td style="text-align: right;">-0.018</td> <td style="text-align: right;">-0.005</td> <td style="text-align: right;">-0.007</td> </tr> <tr> <td> Congressional undistributed reductions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> SBIR Tax Assessment</td> <td style="text-align: right;">-0.014</td> <td></td> <td></td> <td></td> </tr> <tr> <td> FY 2003 Update</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Sec 8126 Efficiencies/ Rev</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Sec 8909 Management Imp.</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Economic Assumptions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Inflation</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Reprogrammings</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional increases</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">-0.014</td> <td style="text-align: right; border-top: 1px solid black;">-0.018</td> <td style="text-align: right; border-top: 1px solid black;">-0.005</td> <td style="text-align: right; border-top: 1px solid black;">-0.007</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule:</p> <p style="margin-left: 20px;">Not Applicable</p> <p>Technical:</p> <p style="margin-left: 20px;">Not Applicable</p>						FY 2004	FY 2005	FY 2006	FY 2007	Funding:					Last President's Budget:	0.546	0.695	0.710	0.725	Adjustments since the last President's Budget:	-0.014	-0.018	0.005	0.007	Current Baseline	0.532	0.677	0.715	0.732	Summary of Adjustments					Congressional program reductions		-0.018	-0.005	-0.007	Congressional undistributed reductions					Congressional rescissions					SBIR Tax Assessment	-0.014				FY 2003 Update					Sec 8126 Efficiencies/ Rev					Sec 8909 Management Imp.					Economic Assumptions					Inflation					Reprogrammings					Congressional increases					Subtotal	-0.014	-0.018	-0.005	-0.007
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R-1 SHOPPING LIST -

Item No. 134

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0604910N Navy IT DevMod			PROJECT NUMBER AND NAME T2902 Smart Card Program				
D. OTHER PROGRAM FUNDING SUMMARY:									
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	To Complete
Not Applicable									Total Cost
E. ACQUISITION STRATEGY: *									
The milestone for all years is the completion of proof of concept initiatives for the benefit of the Department of Navy. In each of the fiscal years approximately 2-3 projects will be executed.									
F. MAJOR PERFORMERS: **									
Not Applicable									
<p>* Not required for Budget Activities 1,2,3, and 6</p> <p>** Required for DON and OSD submit only.</p>									

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Item No. 134

CLASSIFICATION:

Exhibit R-3 Cost Analysis													DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT		PROJECT NUMBER AND NAME									
RDT&E, N / BA-5			0604910N Navy IT DevMod		T2902 Smart Card Program									
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation				0.532	03/04	0.677	TBD	0.715	TBD	0.732	TBD	TBD	2.656	
Operational Test & Evaluation														
Tooling														
GFE														
Subtotal T&E			0.000	0.532		0.677		0.715	0.000	0.732	0.000		2.656	
Remarks:														
Contractor Engineering Support														
Government Engineering Support														
Program Management Support														
Travel														
Labor (Research Personnel)														
Overhead														
Subtotal Management			0.000	0.000		0.000		0.000		0.000		0.000	0.000	
Remarks:														
Total Cost			0.000	0.532		0.677		0.715		0.732		0.000	2.656	
Remarks:														

R-1 SHOPPING LIST -

Item No. 134

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																				DATE: February 2005														
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5					PROGRAM ELEMENT NUMBER AND NAME 0604910N Navy IT DevMod										PROJECT NUMBER AND NAME T2902 Smart Card Program																			
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011					
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
Acquisition Milestones																																		
Pilot Execution																																		
Test & Evaluation Milestones																																		
Development Test																																		
Operational Test																																		
Production Milestones																																		
LRIP I FY 05																																		
LRIP II FY 06																																		
FRP FY 07																																		
Deliveries																																		

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* Not required for Budget Activities 1, 2, 3, and 6

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Exhibit R-4 pg 1 T2902

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Exhibit R-4a, Schedule Detail					DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT			PROJECT NUMBER AND NAME				
RDT&E, N / BA-5	0604910N Navy IT Dev\Mod			T2902 Smart Card Program				
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Prototype Phase	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q			
System Design Review (SDR)								
Milestone II (MSII)								
Contract Preparation								
Software Specification Review (SSR)								
Preliminary Design Review (PDR)								
System Development								
Critical Design Review (CDR)								
Quality Design and Build								
Test Readiness Review (TRR)								
Developmental Testing (DT-IIA)								
Eng Dev Model (EDM) Radar Delivery - Lab								
Software Delivery 1XXSW								
Preproduction Readiness Review (PRR)								
EDM Radar Delivery - Flt Related								
Milestone C (MS C)								
Operational Testing (OT-IIA)								
Start Low-Rate Initial Production I (LRIP I)								
Software Delivery 2XXSW								
Developmental Testing (DT-IIB1)								
Developmental Testing (DT-IIB2)								
Start Low-Rate Initial Production II								
Operational Testing (OT-IIB)								
Developmental Testing (DT-IIC)								
Functional Configuration Audit (FCA)								
Low-Rate Initial Production I Delivery								
Technical Evaluation (TECHEVAL)								
Physical Configuration Audit								
Operational Evaluation (OT-IIC) (OPEVAL)								
Low-Rate Initail Production II Delivery								
IOC								
Full Rate Production (FRP) Decision								
Full Rate Production Start								
First Deployment								

R-1 SHOPPING LIST - Item No. 134

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Exhibit R-4a pg 1 T2902

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EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME				
RDT&E, N /BA-5 System Dev and Demonstration (SDD)		0605013M Marine Corps Information Technology			C2906 Marine Corps Information Technology DEV/MOD				
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		8.725	9.197	19.150	13.954	13.256	15.285	10.755	8.423
RDT&E Articles Qty									
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:									
<p>1. Total Force Administration System (TFAS) (formerly HRDP) will be used by commanders, staffs and individual Marines (active, reserve, retired), conducting centralized and decentralized processing of payroll and personnel administration information. This centralized database assists decision-making by providing improved quality of life services to the Marines. TFAS will integrate and share information between the Marine Corps Total Force System (MCTFS) and other databases such as the Personnel Evaluation System and the Manpower Order Writing System.</p> <p>2. Marine Corps Enterprise Information Technology Services (MCEITS) will provide an overarching portfolio of capabilities to deliver "Power to the Edge" for the Marine Corps. Born from an effort to establish a Continuity of Operations Plan (COOP) of HQMC Automated Information Systems (AIS), MCEITS will realign the existing USMC environment of applications, databases, networks, and facilities into an integrated architecture and programs to deliver new information technology capabilities based on a common infrastructure and shared services. MCEITS is a unifying framework of both the Net-Centric Enterprise Services (NCES) to be delivered, and the infrastructure and systems which must be deployed to enable delivery of those services. Initially it will encompass the Operational, Technical and Systems architectures of the garrison environment. However, ultimately it will extend to transform Command and Control (C2) both in garrison and in the deployed environment. Combined with policy, procedure and standards provided by HQ-USMC C4, it will allow us to finally achieve architectural standardization, consolidated management, and seamless interoperability of, and access to, the data residing in our currently fielded applications (business and tactical), and significantly reduce the complexity of ensuring data interoperability of future capabilities. MCEITS will provide the Marine Corps with the Information Technology tools that will allow for decision superiority now and in the future.</p> <p>3. Defense Messaging System (DMS) is an OSD-mandated program that replaced the Automatic Digital Network (AUTODIN) in 30 September 2003. DMS expands writer-to-reader connectivity, support, and message security services. Organizations are able to create, edit, send, receive, read, and process organizational and individual messages, secured with end-to-end protection, direct from desktop terminals/personal computers in their workspaces. Future changes to DMS will provide message drafters and releasers a web interface and centralize the DMS functions including FORTEZZA security services.</p> <p>4. Marine Corps Recruiting Information Support Systems (MCRISS) is an electronic based system to automate administrative procedures for the recruiting substation (RSS) recruiter. This customized automated system, centered around procedures in the Volume I, Guidebook for Recruiters, will dramatically improve efficiency and effectiveness in this area. Furthermore, Military Entrance Processing Command (MEPCOM) requires Marine Corps recruiting to provide information in electronic format only.</p> <p>5. Models (formerly HRDP) is designed to manage acquisition of information technology capabilities for the modernization of processes supporting the lifecycle of Marines, from recruiting, accession, promotions, separations, retirements, performance evaluations. Efforts supported must include thorough review and analysis of business processes, re-engineering processes where technology can be leveraged for improvements. The funding in Models will provide the technical solution for process improvement, and will strategically align manpower systems/functional process modules with the C4 architecture.</p> <p>6. Marine Corps Training, Exercise, and Employment Plan (MCTEEP) is a Windows-based, Marine Corps developed scheduling tool, identified in the Commandant's Planning Guidance (CPG) to standardize the "TEEP" process.</p> <p>7. Ammunitions Budget Management System (ABMS) provides the Program Manager for Ammunition staff with the tools and functionality for the preparation of the budget submission, incorporating information sent to and received from the Joint Munitions Command (JMC) or any other contracting agency that is responsible for computing this data. The scope of this effort is to set forth the requirements and efforts for developing and testing revisions that will reduce the time and effort of budget submissions.</p>									

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N /BA-5 System Dev and Demonstration (SDD)	0605013M Marine Corps Information Technology	C2906 Marine Corps Information Technology DEV/MOD		
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.247	0.000	0.000	0.000
RDT&E Articles Qty				
ABMS: Set forth requirements and efforts for developing and testing revisions for the Ammunitions Budget Management System (ABMS).				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.200	0.429	0.505	0.510
RDT&E Articles Qty				
DMS: OTE and DTE testing of DMS new releases, maintenance releases, TDMS, Proxy solution (Automated Message Handling System (AMHS), Decision Agency (DA) and others), integration testing of DMS inclusion into the NetCentric Enterprise System (NCES).				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.139	0.000	0.000	0.000
RDT&E Articles Qty				
DMS: 3.0 and Defense Message Dissemination System (DMDS) testing.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	3.756	0.000	0.000	0.000
RDT&E Articles Qty				
HUMAN RESOURCE DEV PROCESS (HRDP): Development of modules to integrate existing systems to streamline dataflow and increase reliability, functionality, and accuracy while reducing the manpower required to operate and maintain these systems. This includes the web-enablement of systems to provide centralized access and provide greater functionality and reliability while reducing maintenance requirements and the re-engineering of systems due to regulatory and policy changes mandated by Congress, DoD, DoN, and USMC. This integration will migrate the current Total Force Administration System (TFAS), Monitor Assignment Support System(MASS), Defense Casualty Information Processing System (DCIPS), Performance Evaluation System (PES), Total Force Retention System (TFRS), Defense Personnel Records Imaging System (DPRIS), Automated Claims Information System (ACIS), CASA/RASA/DASH (Class I/II/III), and Marine Corps Medical Entitlements Data System (MCMEDS) to an integrated Detailed Planning and Current Operations System over the long-term.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.991	0.000	0.000
RDT&E Articles Qty				
MODELS: Re-engineering of long-term planning tools which are integral to the decision support processes of the TFAS. The current models, in use in various form since 1960, are completely dependent on the current support contractor and do not include the documentation or software rights necessary to turn an enhancement effort over to another support source. Consequently, a major requirements analysis and process re-engineering effort is required to improve the capability of the Marine Corps to effectively plan, assign, classify, and distribute the force. This re-engineering effort will provide the technical integration of the models with the core planning systems which utilize outputs of the models, and will include integration of Reserve requirements into the HRDP Master Planning System.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	1.509	0.000	0.000	0.000
RDT&E Articles Qty				
HUMAN RESOURCE DEV PROCESS (HRDP): Development of a Civilian Marine Workforce Management System which will enhance the ability of the Marine Corps to plan for the best use of its civilian workforce and execute that plan. Initial effort is focused on Civilian Career and Leadership Development (CCLD).				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	1.693	0.000	0.000	0.000
RDT&E Articles Qty				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N /BA-5 System Dev and Demonstration (SDD)	0605013M Marine Corps Information Technology	C2906 Marine Corps Information Technology DEV/MOD		
HUMAN RESOURCE DEV PROCESS (HRDP): Provide support for the development and integration of modules into the Detailed Planning and Current Operations System.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	2.587	6.172	4.014
RDT&E Articles Qty				
TFAS: Development of modules to integrate existing systems to streamline dataflow and increase reliability, functionality, and accuracy while reducing the manpower required to operate and maintain these systems. This includes the web-enablement of systems to provide centralized access and provide greater functionality and reliability while reducing maintenance requirements and the re-engineering of systems due to regulatory and policy changes mandated by Congress, DoD, DoN, and USMC. This integration will migrate the current Total Force Administration System (TFAS).				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	3.038	8.500	7.000
RDT&E Articles Qty				
TFAS: Provide support for the development and integration of modules into TFAS.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	1.181	2.152	1.973	0.000
RDT&E Articles Qty				
MC RECRUITING INFO SUPT SYS (MCRISS): Design and development of web enabling technologies for MCRISS- Non-Commissioned Officer in Charge (NCOIC); verify and validate requirements for automating information management; incremental design and development of software; and testing of the design interface with existing system components.				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.000	2.000	2.430
RDT&E Articles Qty				
MCEITS: Funds will be used for spiral development of the Engineering Design Models (EDM) to include systems engineering, horizontal scaling across the MC "map" of systems, databases and networks, and vertical scaling of Net-Centric Enterprise Services (NCES).				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
Accomplishment/Effort Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Qty				
MC TRAINING EXERCISE EMPL PLAN (MCTEEP) - Database Evaluation and Conversion. System Architecture Evaluation for Optimal System Performance. Creation of Situation Report (SitRep) and Operational Summary (OpSum). Continue the development, integration, testing and fielding of selected MCTEEP web enabling Software upgrades to enhance the capabilities of MCTEEP. The prospective S/W modifications include; 1) incremental upgrades to accomplish progressively higher levels of DII / COE compliance, 2) increased data sorting, correlation and filtering capabilities to further facilitate rapid responses to				
(U) Total \$	8.725	9.197	19.150	13.954

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EXHIBIT R-2a, RDT&E Project Justification

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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME						
RDT&E, N /BA-5 System Dev and Demonstration (SDD)	0605013M Marine Corps Information Technology				C2906 Marine Corps Information Technology DEV/MOD						
(U) PROJECT CHANGE SUMMARY											
	FY2004	FY2005	FY2006	FY2007							
(U) FY 2005 PRESIDENT'S BUDGET	10.063	9.301	11.609	4.488							
(U) Adjustments from the President's Budget:											
(U) Congressional Program Reductions											
(U) Congressional Rescissions											
(U) Congressional Increases											
(U) Reprogrammings	-1.280		7.500	9.430							
(U) SBIR/STTR Transfer	-0.058										
(U) Minor Affordability Adjustment		-0.104	0.041	0.036							
(U) FY 2006 President's BUDGET	8.725	9.197	19.150	13.954							
CHANGE SUMMARY EXPLANATION:											
(U) Funding: See Above.											
(U) Schedule: Not Applicable.											
(U) Technical: Not Applicable.											
(U) C. OTHER PROGRAM FUNDING SUMMARY:											
Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost	
(U) PMC BLI # 464100 HRDP	1.989	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	1.989	
(U) PMC BLI#464100 TFAS	1.326	0.527	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.529	
(U) PMC BLI#463500 DMS	7.420	8.234	2.984	0.444	9.208	0.459	0.470	0.476	0.000	29.695	
(U) PMC BLI # 461700 MODELS	0.000	0.000	0.216	0.220	0.255	0.285	0.290	0.288	0.00	1.554	
(U) PMC BLI#461700 TFAS	0.000	0.000	0.718	0.844	0.571	0.760	0.849	0.557	0.000	4.299	
(U) PMC BLI#461400 MODELS	0.201	0.213	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.414	
TFAS - The operational Data Store Enterprise (ODSE) will serve as the primary database for TFAS. The acquisition strategy is to leverage the evolutionary acquisition approach, whereby functionality is incrementally added as requirements are specified. As a systems integration effort, TFAS does not replace, but provides access to legacy systems. Access will provided to Marines at the appropriate level of authority to view, change and input selected information.											
DMS: DMS is a Joint ACAT1AM program. It is ASD (C3I) - mandated. Each year Joint Inter-Operability Testing Center (JTIC) runs on Operational Test assessment on DMS software version, maintenance releases. The fund support Marine Corps Operations Test Activity (OTA). Marine Corps participation is vital to ensuring the Marine Corps implementation of DMS is interoperable with all DOD CINCs/Services/Agencies.											
MCRISS: Development will remain consistent with established DOD, DON, and USMC standards and policies for interoperability, security and standardization. Capitalizing on centrally located data with secure web and wireless web enabled entry.											
HRDP: In accordance with Clinger-Cohen Act, business process reviews are conducted to determine the optimal business case for enhancing the family of systems. Within the HRDP family of systems, there are programs designed to fulfill requirements defined by a broad range of stakeholders within the HRDP. Acquisition strategies are in place for each defined set of requirements. The HRDP Portfolio as a whole leverages evolutionary acquisition to incrementally fulfill these requirements while keeping an integrated technical architecture as the central focus. As such, concurrent design and development will occur with functional modules of the HRDP being designed while other blocks of functionality are in the implementation and fielding process.											

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EXHIBIT R-2a, RDT&E Project Justification

DATE:

February 2005

APPROPRIATION/BUDGET ACTIVITY

PROGRAM ELEMENT NUMBER AND NAME

PROJECT NUMBER AND NAME

RDT&E, N /BA-5 System Dev and Demonstration (SDD)**0605013M Marine Corps Information Technology****C2906 Marine Corps Information Technology DEV/MOD**

MCEITS: Complete system design and evaluation; achieve Milestone C; complete installation of initial GIG ES application suites and conduct testing; achieve approval for full fielding (FY06); procure equipment for full network (FY06); complete upgrades of prototype installations to approved final design (FY07-08); establish all network nodes (FY07-08). Begin technology refreshment cycle (FY09-11). It is important to recognize that as this is a multi-layered approach, RDT&E will be required in FY06 to develop that application solutions for the GIG-ES. PMC execution is in support of the infrastructure layer, (COOP/DR/Network).

MCTEEP: Competitively award a cost plus fixed fee contract in 2nd qtr FY04. R&D component of this contract will be web enabling software upgrades to further develop the capabilities of the MCTEEP variant, the M. C. Database Management Tool.

(U) E. MAJOR PERFORMERS:**TFAS**

FY05 - DFAS Kansas City, MO, Verification and validation testing of software; Dec 2004.

FY06 - DFAS Kansas City, MO, Verification and validation testing of software; Dec 2005.

FY07 - DFAS Kansas City, MO, Verification and validation testing of software; Dec 2006.

DMS

FY04 - MCOTEA. Quantico, VA, Operational Test and Evaluation and Developmental Test and Evaluation testing, 3.0 and DMDS testing, Jan 2004.

Fort Huachuca, Az , TDMS, DMS, DMDS Joint Interoperability Certifications (JIC II) exercise, Dec 03.

FY05 - MCOTEA. Quantico, VA, Operational Test and Evaluation and Developmental Test and Evaluation testing, 3.1, Proxy Solution testing, Jan 2006.

Fort Huachuca, Az , TDMS, DMS Joint Interoperability Certifications (JIC) exercise, Dec 04.

FY06 - MCOTEA. Quantico, VA, Operational Test and Evaluation and Developmental Test and Evaluation testing, 3.2, Proxy AMHS, DA testing, 01/06.

Fort Huachuca, Az , TDMS, DMS Joint Interoperability Certifications (JIC) exercise, 01/06 .

FY07 - MCOTEA. Quantico, VA, Operational Test and Evaluation and Developmental Test and Evaluation testing, NCES/DMS, Proxy testing, 12/06.

Fort Huachuca, Az , TDMS, DMS, Proxy solution Joint Interoperability Certifications (JIC) exercise, 01/07.

MCRISS

FY04 - Federal Systems Integration and Management Center (FEDSIM), Falls Church, VA, Design and development of web enabling technologies for MCRISS-NCOIC, March 2004.

FY05 - Federal Systems Integration and Management Center (FEDSIM), Falls Church, VA, Design and development of web enabling technologies for MCRISS-NCOIC, Jan 2006.

FY06 - Federal Systems Integration and Management Center (FEDSIM), Falls Church, VA, Design and development of web enabling technologies for MCRISS-NCOIC, Jan 2007.

HRDP

FY04 - This line is under portfolio management. There are various Manpower programs that are being executed. Contracting information can be provided under separate cover as it is in various capacities.

MODELS

FY05 - DFAS Kansas City, MO, Technical integration; Jan 2005.

MCEITS

FY06 - This is a new start program. Contracting information will be determined at a later date.

FY07 - Contracting information will be determined at a later date.

MCTEEP

FY04 - This line is under portfolio management. There are various Manpower programs that are being executed. Contracting information can be provided under separate cover as it is in various capacities.

Exhibit R-3 Cost Analysis										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME							
RDT&E, N /BA-5 System Development and Demonstration (SDD)			0605013M Marine Corps Information Technology				C2906 Marine Corps Information Technology DEV/MOD							
Cost Categories	Method & Type	Activity & Location	PY s Cost	FY 04 Cost	FY04 Award Date	FY 05 Cost	FY05 Award Date	FY 06 Cost	FY06 Award Date	FY 07 Cost	FY07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
MODELS	MIPR	FEDSIM	0.000	0.000		0.991	01/05						0.991	
MCEITS	RCP	MCSC, Quantico, VA	0.000					2.000	12/05	2.430	12/06		4.430	
Subtotal Product Dev			0.000	0.000		0.991		2.000		2.430		Cont	Cont	
Remarks														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY04 Award Date	FY 05 Cost	FY05 Award Date	FY 06 Cost	FY06 Award Date	FY 07 Cost	FY07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
SDE	LOF	MCSC, Quantico, VA	0.608									0.000	0.608	
MCRISS	MIPR	FEDSIM		1.181	08/04	2.152	01/05	1.973	01/06			0.000	5.306	
TFAS	VAR	VARIOUS		6.934	01/04	4.830	01/05	6.172	01/06	4.014	01/07	Cont	Cont	
MCTEEP	VAR	VARIOUS		0.271	01/04									
Subtotal Support			0.608	8.386		6.982		8.145		4.014		Cont	Cont	
Remarks														
Cost Categories	Method & Type	Activity & Location	PY s Cost	FY 04 Cost	FY04 Award Date	FY 05 Cost	FY05 Award Date	FY 06 Cost	FY06 Award Date	FY 07 Cost	FY07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
TFAS	TBD	TBD	1.980					8.500	TBD	7.000	TBD	0.000	17.480	
TFSMS	TBD	MCSC, Quantico, VA	0.300									0.000	0.300	
DMS	WR	MCOTEA		0.200	01/04	0.255	01/05	0.305	01/06	0.310	01/07	Cont	Cont	
DMS	MIPR	FORT HUACHUCA		0.139	12/04	0.174	12/04	0.200	12/05	0.200	12/06	0.000	0.713	
Subtotal T&E			2.280	0.339		0.429		9.005		7.510		Cont	Cont	
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY04 Award Date	FY 05 Cost	FY05 Award Date	FY 06 Cost	FY06 Award Date	FY 07 Cost	FY07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
AIT/RFID	TBD	TBD	0.136										0.136	
TFAS	TBD	TBD				0.795	01/05					Cont	Cont	
Subtotal Management			0.136	0.000		0.795		0.000		0.000		0.000	0.931	
Remarks:														
Total Cost			3.024	8.725		9.197		19.150		13.954		Cont	Cont	

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EXHIBIT R-2, RDT&E Budget Item Justification								DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /						R-1 ITEM NOMENCLATURE 0605013N Information Technology Development			
BA-5									
COST (\$ in Millions)	SYSKOM	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost		92.499	123.868	60.859	24.964	3.708	3.169	3.234	3.279
2901 AAUSN IT	AAUSN	4.776	13.203	2.902	1.101				
2903 NAVAIR IT	NAVAIR	3.249	2.100	2.477	2.464	0.911	0.948	1.000	1.048
2904 NAVSEA IT	NAVSEA	1.874							
2905 BUPERS IT	BUPERS	8.167	0.850	4.329					
2907 SPAWAR IT	SPAWAR	2.133	1.689	1.797	1.773	1.806	1.840	1.881	1.912
3026 ERP Convergence	NAVAIR	29.369	57.541	49.354	19.626	0.991	0.381	0.353	0.319
3038 E-Business	NAVSUP	6.412	6.793						
9088 SPAWAR ITC Enterprise Management	SPAWAR	7.113	6.436						
9089 Secure Interactive Distributed Learning (SIDL)	SPAWAR	3.359	6.734						
9253 Web Centric Network Warfare	SPAWAR	5.524	4.257						
9254 Horizontal Integrated Data Environment	SPAWAR	0.960							
9258 Navy Predictive Response Center	NAVSEA	3.276							
9259 Condition Based Maintenance Enabling Tech	NAVSEA	2.878	2.971						
9404 Defense Systems Testing and Productivity Init	ONR	2.450							
9405 Fiber Optic Components for Military Applications	NAVAIR	1.636	2.079						
9406 Maintenance Data Warehouse	NAVAIR	2.163	2.178						

R-1 SHOPPING LIST - Item No.

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EXHIBIT R-2, RDT&E Budget Item Justification								DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /						R-1 ITEM NOMENCLATURE 0605013N Information Technology Development			
		BA-5							
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
9407 On-line Web-based Learning Development Prog	NAVSEA	4.084	2.575						
9408 Virtual Perimeter Monitoring System	NAVSEA	1.728							
9409 Wireless Sensor Technologies	NAVSEA	1.348							
9597 Continuation of Software Development for Military and Civilian Applications	Unknown		2.080						
9599 Fiber Optic Interconnect Technology	NAVAIR		1.684						
9601 Navy Law Enforcement Information Exchange (Li	AAUSN		4.161						
9602 Navy Readiness Response Center (RRC)	NAVSEA		2.574						
9603 Vigilant Network Centric Security Data System	Unknown		0.495						
9604 Virtual Perimeter Monitoring System	NAVSEA		3.468						
2901 AAUSN IT NCIS is the Department of Navy component with primary responsibility for law enforcement, counterintelligence, and security policy matters. NCIS has primary investigative and counterintelligence jurisdiction within the DON, and exclusive investigative jurisdiction in non-combat matters involving actual, potential, or suspected terrorism, sabotage, espionage, and subversive activities. Terrorist events in the recent past - including the bombing of the USS Cole and the September 11th attacks on the United States - have necessitated a concerted effort to improve NCIS' ability to fuse, analyze and disseminate terrorist threat information. A 3-month study identified critical deficiencies in the NCIS infrastructure which impact on the organization's ability to support the fleet. Significant weaknesses included an insufficient ability to pull, fuse and disseminate threat data; perform predictive analysis; and reliance on unsuitable equipment essential to mission performance. The study resulted in 11 discrete areas of concern. Specific aspects addressing RDT&E requirements within three of these portfolios (Multiple Threat Alert Center (MTAC), Data Modernization & Analytical Tools, and Threat Planner) are attached in Tab R-2a. Increase in FY 2005 in support of the Capital Asset Management System (CAMS) which supports realization of OSD's goal of achieving a clean audit of Defense Department financial statements. The Naval Criminal Investigative Service (NCIS) is the Executive Agent (EA) for the Consolidated Law Enforcement Operations Center (CLEOC), an information system that combines criminal justice and law enforcement information from multiple communities throughout the Department of the Navy. CLEOC is a critical element of NCIS's Modernization efforts and will become the single report-writing and information-management system through which NCIS accomplishes its criminal investigative mission.									

R-1 SHOPPING LIST - Item No.

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Exhibit R-2, RD TEN Budget Item Justification
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EXHIBIT R-2, RDT&E Budget Item Justification		DATE:	February 2005
APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /BA-5		0605013N Information Technology Development	
<p>2903 NAVAIR IT Configuration Management Information System (CMIS) Program is DoD's standard software system for complete and integrated configuration management (CM) of weapon systems from acquisition to disposal. Funding is budgeted to support the services of rehosting and testing of COTS upgrades to ensure objective performance of CMIS is achieved.</p>			
<p>2904 NAVSEA IT This is not a new start. These funds were moved from O&M,N to RDT&E,N due to Congressional (HAC) direction and subsequent OUSD(C) guidance to adjust Information Technology (IT) budgeting. This program includes the funding for Information Technology (IT) support at NAVSEA HQ. This includes modifications/enhancements to IT systems within Headquarters such as Ships Configuration Logistics Support Information Systems (SCLSIS), Command Document Management System (CDMS) and Integrated Class Maintenance Plans (ICMP). The Task Force Web (TFW) is responsible for the development of the infrastructure needed for the Web Enabled Navy. The Web Enabled Navy is currently researching, developing and implementing a overall plan to web technologies to create integrated and transformational information exchange for the Navy. The goal is to better enhance the Navy's capability to perform combat/mission support in a fully mobile, joint environment for both deployable and non-deployable units. Through Web enabling technologies, Navy personnel will have the ability to tailor the information flow and information access to meet their requirements. This funding also supports modification to existing software, hardware changes, contractual program management and technical support to modify/enhance the NAVSEA HQ systems and infrastructure. The NAVSEA HQ network infrastructure architecture requires the development, analysis and testing of IT prototypes, such as Remote Access and Data Management. Also supported is software development and upgrades for IT systems and infrastructure, to include COTS software packages/systems; developmental testing and initial operational test and evaluation required prior to system acceptance/approval.</p>			
<p>2905 BUPERS IT Navy Personnel Research, Studies, and Technologies (NPRST): This non-acquisition category program provides funds for continued (but less risky) R&D for broader application of advanced technologies to transition successful 6.3 research proof-of-concept demonstrations into operational use. Development of prototype systems to support and/or improve operational requirements of manpower and personnel sponsors is the primary goal of this Engineering Development Program. The 6.5 R&D Program features the use of a broad range of technologies from cognitive science and ability testing techniques, mathematical modeling and optimization, statistical and econometric forecasting, intelligent systems, data visualization, data mining, simulation, decision support systems, and new database and communications configuration.</p> <p>Electronic Military Personnel Record System (EMPRS) is an electronic document/image based system that serves as the repository for all Department of Navy (DoN) official military personnel record images. It supports retired, active, and reserve military personnel in the functional areas of selection board operations, casualty management, mobilization, and other military personnel management functions. EMPRS supports over 180 statutory and administrative selection boards annually providing over 12 million service record images, covering promotions, assignments, and retention. Additionally, it provides the Navy with the capability to meet the statutory requirement to maintain permanent personnel records for a period of 62 years. After 62 years, Navy permanent records are provided to National Archives and Records Administration and become public records. Current Acquisition Strategy is a two-phased approach to Technology Refresh (TR) EMPRS and achieve Milestone C designation, followed by actions to reengineer the system commencing with Business Process Reengineering (BPR). The TR system, which will achieve Milestone C, will result in the disposal of the legacy system and the beginning of sustainment on the TR system. This supports the N1 Architecture and Single Integrated Human Resource Strategy (SIHRS). EMPRS was authorized to commence TR in March 2003 with a completion time of early FY05 .</p>			

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<p>2907 RESFOR IT</p> <p>The Acquisition Initiatives Procurement/Financial process supports paperless acquisition mandated by the SECDEF in 1997. This acquisition process includes the coordination of the following applications:</p> <p style="text-align: center;">7.16</p> <p>Wide Area Work Flow-Receipt and Acceptance (WAWF-RA), Navy Air Force Interface (NAFI) and Universal Interface (UI). This effort encompasses a number of other Federal, Department of Defense (DoD) and Navy electronic solutions which, when combined, enable a DoN end-to-end procurement/financial management process (including receipt, acceptance and payment). Current and future RDT&E development focuses on interface design and implementation to allow data and information to pass to and from Department of Navy (DoN) systems to mandated Federal and DoD systems. Financial and contractual information can be seamlessly transferred electronically by integrating WAWF with other Federal and DoD financial applications, developing NAFI as an aggregate data source and integrating it with other financial systems, and using UI as the means of transporting procurement and contracting information to other systems. By doing so, this provides a truly End-to-end Procurement/Financial process. The Acquisition Initiatives directly support the DoD mission of providing not only a paperless contracting and procurement process, but also provides an integrated over-all system architecture, which promotes efficiency in the transferring of data and information between applications. By facilitating contracting, receipts & acceptance, contractor payments, personnel and interest payment savings, etc., this effort directly supports virtually all DoN efforts including electronic Government, Integrated Acquisition Environment, Strategic Acquisition, and other OSD initiatives.</p> <p>Joint Air Logistics Information System (JALIS) provides an airlift data collection and analysis system for the purpose of airlift and aircraft management. JALIS supports the objectives and strategies presented in the DoD Transportation Corporate Information Management (CIM) Strategic Plan and Enterprise Integration (EI) Implementation Strategy as directed for DoD transportation management responsibilities in the USTRANSCOM Joint transportation CIM Center (JTCC) Abbreviated Integration Decision Paper (IDP) for the JALIS. Total Force Manpower Management System (TFMMS) is the single authoritative source for activity and manpower data and sends the demand signal to the Navy's military distribution systems to assure personnel readiness. It provides the ability to track manpower requirements and authorizations for active and reserve military, civilians, and contractors. TFMMS aids in defending Program Objective Memorandum and budget requests to assure the Navy's billet base supports the Navy's operational requirements and quality of life initiatives.</p> <p>Sea Warrior is the Human Resources component of the Chief of Naval Operation's (CNO) Sea Power 21 Transformation Roadmap, focused on maximizing human capital and improving fleet readiness by ensuring the right skills are in the right place at the right time. From an information technology perspective, Sea Warrior provides a comprehensive Web-based Career Management System (CMS) that implements the Navy's Single Integrated Human Resources Strategy (SIHRS) for stakeholders, including but not limited to Enlisted Community Managers, Manning Control Authorities (MCA), Placement Managers, Detailers, Losing/Gaining Commands and most importantly, the individual Sailor. In FYs 2003 and 2004 this initiative was supported by Congressional RDTE funding (Project 9088). This funding was provided for Enterprise reengineering, integration and Web enablement of Manpower and Personnel legacy systems.</p>			

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<p>3026 ERP Convergence: The Navy Enterprise Resource Planning (ERP) was established to achieve the overarching objectives of the Defense Reform Initiative of 1997, the OUSD (Comptroller) Business Management Modernization Program (BMMP), and the Chief Financial Officer's Act of 1990. In 1998, the Navy's Revolution in Business Affairs (RBA) Commercial Business Practices Working Group established ERP pilots in each of the four major systems commands to investigate the applicability of using a Commercial-Off-The-Shelf (COTS) ERP solution for the Navy's business. Each pilot (SIGMA, SMART, NEMAS and CABRILLO) used the SAP platform for different functional areas including Acquisition, Financial Management and Logistics. Converging and extending the proven pilot solutions across the Navy enterprise will integrate the existing pilot projects, upgrading the SAP ERP software suite as a single Navy platform that will encompass financial, intermediate-level maintenance, plant supply, wholesale supply and program management and provide the mechanism for future technology insertion. The Navy ERP solution will provide a coherent and seamless Fleet focus that enables the Navy to standardize business processes using information technology that will result in accurate, timely and efficient services to the Fleet, retirement of stove-piped data systems that are no longer sustainable, acceleration of financial transactions, and improved accountability for financial management. The Navy-wide ERP Program is one of the major components of SEA ENTERPRISE.</p>		
<p>3038 E-Business: The DoN Electronic Business (eBusiness) Operations Office was established on 1 October 2000 to serve as a catalyst for implementing and integrating DON eBusiness efforts, and harnessing emerging uses of electronic business (both from within the whole of government as well as private industry), and making DON processes more efficient and effective. The Office provides a consistent and integrated management approach and facilitates the evolution to future technological solutions, a center of eBusiness innovation for the Navy and Marine Corps. The DON eBusiness Operations Office, as chartered by the Secretary of the Navy, is responsible for acting as the DON center for innovation as well as managing card programs and selected electronic transaction systems.</p>		
<p>9088 SPAWAR ITC Enterprise Management: Funding will be used to support enterprise level reengineering, systems migration and web enablement of Manpower and Personnel (M&P) legacy systems. This includes creation and integration into enterprise architectures, and preparing these systems for integration with the Defense Integrated Military Human Resources System (DIMHRS) platform and PeopleSoft architecture. Congressional adds were received in prior years. Program does not require follow-on funding and have no maintenance and sustainment requirements.</p>		
<p>9089 Secure Interactive Distributed Learning (SIDL): The focus of the Workforce Learning Community project is to construct a Career Development System for the government civilian workforce. The Career Development System will provide individualized pathways for government employees to attain upward mobility in selected career paths. Deliverables for the project are an Organization Assessment, Career Development System, and Job Task Analysis, including pathways to attain common KSTs and job-specific KSTs. Congressional adds were received in prior years. Program does not require follow-on funding and have no maintenance and sustainment requirements.</p>		
<p>9253 Web Centric Network Warfare (WECAN): Congress appropriated funds to provide continued development of Web Centric ASW Net (WECAN). WECAN is a web based software tool for USW/ASW collaborative planning and execution based upon Commercial Off The Shelf (COTS) technologies and products that allows users to discuss immediate and tactical operational concerns such as vulnerability analysis, battle group coordination, and threat discussions.</p>		

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<p>9254 Horizontal Integrated Data Environment: HIDE will play a significant role in achieving high efficiency of all stages of system support and installation fielding. Process automation will be achieved by leveraging HIDE technologies.</p> <p>7.16</p> <p>9258 Navy Readiness Response Center: Congressional Add funding provided to improve fleet support processes by reducing fleet workload and improving the shore support infrastructure. Specifically these funds will be used to assess Navy troubled systems and develop processes for assisting the fleet in expedient resolution of these systems.</p> <p>9259 Conditioned Based Maintenance Enabling Technology (CBMET): Congressional Add funding provided to provide research and development efforts for pursuing Condition Based Maintenance (CBM) enabling technologies IAW processes emerging from commercial markets and develop those resources and procedures to transition these CBM enabling technology products into the maintenance and logistic processes and Fleet tools that are under the cognizance of the Navy Distance Support Program.</p> <p>9404 Defense Systems Testing and Productivity Initiative: This RDT&E Project is a continuation of activities of the National Institute for Systems Test and Productivity (NISTP), a consortium of universities centered at the University of South Florida, to provide tools for Homeland Security for terrorist detection and improve how federal government agencies acquire and develop large-scale systems. The goal is to create a research and development environment, in collaboration with industry and government, to address the concerns expressed by Congress and the Defense Science Board: runaway cost, schedule, reliability, failed operational tests and other performance problems. NISTP conducts research and development of test and productivity techniques, methods, and practices plus develops supporting tools and guidance materials, including web-enabled courses.</p> <p>9405 Fiber Optic Components for Military Applications is a Congressional increase. This element includes development of fiber optic technology and associated electro-optic manufacturing technologies for Wavelength Division Multiplexed (WDM) networks.</p> <p>9406 Maintenance Data Warehouse: The development of the Decision Knowledge Programming for Logistics Analysis and Technical Evaluation (DECKPLATE) program is the next generation data warehouse for aircraft maintenance, flight and usage data.</p> <p>9407 On-line Web-based Learning Development Prog: Congressional add to research, develop and provide on-line , web based course training, media and associated items for use by Navy civilians in a master degree program. DAU is the subject matter expert for the development of this course.</p>		

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<p>9408 Virtual Perimeter Monitoring System: Congressional Add funding. The VPMS provides a remote surveillance and monitoring system to assist in protecting our ports against drug traffickers and terrorists. VPMS would implement distributed sensors to support the establishment of virtual perimeters with video alarms to provide timely information for key personnel to respond to unauthorized vessels attempting entry into our ports. It will also improve the process of identifying and authenticating vessels by providing the capability to visualize, process data on and track such vessels at a distance from distributed and remote locations.</p> <p>9409 Wireless Sensor Technologies: Congressional Add funding provided for research and development efforts for pursuing Wireless Sensor Technology as a Condition Based Maintenance (CBM) enabling technology in support of the Navy Distance Support program. The technology will be developed to meet DOD requirements for encryption of wirelessly transmitted data certified to FIPS 140-2 as well as support joint services interoperability encryption profiles.</p> <p>9597 Continuation of Software Development for Military and Civilian Applications: Congressional Add funding.</p> <p>9599 Fiber Optic Interconnect Technology: Congressional Add funding. Research and development of low cost, automated connection of fiber optic cables.</p>		

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<p>9601 Navy Law Enforcement Information Exchange (LiNX): Congressional Add funding provided for NCIS initiated two cornerstone initiatives to expand information sharing between local, state, and federal law enforcement agencies in Department of the Navy (DON) strategic locations. LiNX has the potential to deliver a vast array of previously unavailable law enforcement information to NCIS, along with new tools to exploit it. 7.16</p> <p>9602 Navy Readiness Response Center (RRC): Congressional add funding provided to improve fleet support processes by reducing fleet workload and improving the shore support infrastructure. Specifically these funds will be used to assess Navy troubled systems and develop processes for assisting the fleet in expedient resolution of these systems.</p> <p>9603 Vigilant Network Centric Security Data System: Congressional Add funding.</p> <p>9604 Virtual Perimeter Monitoring System: Congressional Add funding. The VPMS provides a remote surveillance and monitoring system to assist in protecting our ports against drug traffickers and terrorists. VPMS would implement distributed sensors to support the establishment of virtual perimeters with video alarms to provide timely information for key personnel to respond to unauthorized vessels attempting entry into our ports. It will also improve the process of identifying and authenticating vessels by providing the capability to visualize, process data on and track such vessels at a distance from distributed and remote locations.</p>		

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA - 5		PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development			PROJECT NUMBER AND NAME 2901 AAUSN IT			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	4.776	7.160	2.902	1.101				
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This RDT&E Project supports, in part, Navy Secretariat staff level efforts in the areas of paperless acquisition and information technology, acquisition strategic planning and business management, and other acquisition reform areas such as knowledge management. In 1997, a Deputy Secretary of Defense directive was issued calling for paper-free acquisition processes by 1 January 2000. While the Department of the Navy has made significant strides toward this goal, additional capabilities and continued support are required. Effective, 1 October 2003, the ASN(RD&A) transferred this project to the Program Executive Officer (PEO) for Information Technology (IT).

Increase in FY 2005 in support of the Capital Asset Management System (CAMS) which supports realization of OSD's goal of achieving a clean audit of Defense Department financial statements.

The NCIS Modernization Initiative includes 3 projects with RDT&E requirements : Multiple Threat Alert Center (MTAC), Data Modernization & Analytical Tools, and Threat Planner.

The Naval Criminal Investigative Service (NCIS) is the Executive Agent (EA) for the Consolidated Law Enforcement Operations Center (CLEOC), an information system that combines criminal justice and law enforcement information from multiple communities throughout the Department of the Navy. CLEOC is a critical element of NCIS's Modernization efforts and will become the single report-writing and information-management system through which NCIS accomplishes its criminal investigative mission.

Law Enforcement Information Exchange: NCIS initiated two cornerstone initiatives to expand information sharing between local, state, and federal law enforcement agencies in Department of the Navy (DON) strategic locations. Recognizing that data is the key to detecting and neutralizing potential threats to the DON's strategic assets-principally the Navy's nuclear fleet and related infrastructure-NCIS launched these initiatives, known collectively as the Law Enforcement Information Exchange (LInX), in the Hampton Roads, Virginia and Puget Sound, Washington areas. LInX has the potential to deliver a vast array of previously unavailable law enforcement information to NCIS, along with new tools to exploit it.

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B. Accomplishments/Planned Program <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 25%;"></th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td></td> <td>4.904</td> <td></td> <td></td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>CAPITAL ASSET MANAGEMENT SYSTEM (CAMS) Development of the Capital Asset Management System (CAMS) supports the Departments Financial Improvement Plan designed to realize OSD's goal of achieving a clean audit of Defense Department financial statements. This project is being worked in conjunction with the OSD (AT&L) Property and Equipment (P&E) Office and the Business Modernization Management Program (BMMP) to ensure alignment with the Business Enterprise Architecture (BEA). CAMS will enable the Department of Navy to implement and integrate Asset Management functions for Military Equipment Valuation, incorporating best commercial business practices utilizing Commercial Off-The-Shelf SAP R/3 software, and providing integrated data, and workflow processes. CAMS will be configured following ASAP's proven implementation methodology and will leverage the Asset Management configuration of the existing Navy Cabrillo ERP system. FY05 funding supports system design/development/integration testing/deployment.</p> <p>FY2005 \$4,904K Contractor/Government labor for systems engineering and software development staff for development of CAMS.</p> </div>						FY 04	FY 05	FY 06		Accomplishments/Effort/Subtotal Cost		4.904			RDT&E Articles Quantity				
	FY 04	FY 05	FY 06																
Accomplishments/Effort/Subtotal Cost		4.904																	
RDT&E Articles Quantity																			

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B. Accomplishments/Planned Program (Continued).

	FY 04	FY 05	FY 06	7.16
Accomplishments/Effort/Subtotal Cost	0.725	3.018		
RDT&E Articles Quantity				

Multiple Threat Alert Center (MTAC):

The Post Cole Secretary of the Navy Antiterrorism/Force Protection Task Force identified the need for NCIS to enhance the Multiple Threat Alert Center (MTAC). The MTAC provides key antiterrorism/force protection products in response to Fleet tasking and is critical to Fleet protection during the current Global War on Terrorism. This project provides funding for the development of an IT system to track the movement of NCIS special agents deployed in advance of DoN in-transit units. The ability to track and communicate with these agents is necessary in order to forward threat data to these forward deployed agents and to task them to respond to emerging threats. Funding is required for equipment and contractor support to modify COTS software.

FY2004

\$400K Contractor systems engineering and software development staff (two man years) for development of "Agent Overwatch" system to track location and communications connectivity with worldwide deployed Special Agents.

\$325K Hardware and software for Agent Overwatch capability.

FY2005

\$2,088K Agent Overwatch Contract Support. Contractor support is required to provide support contractors for the IT and AV systems in the MTAC as well as hardware /software maintenance agreements.

\$777K Agent Overwatch Hardware and Software. The hardware/software support for the MTAC is the maintenance, upgrade and lifecycle management of the computer workstations, network components, and audio/video systems.

\$153K Agent Overwatch Training.

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B. Accomplishments/Planned Program (Continued).

	FY 04	FY 05	FY 06	7.16
Accomplishments/Effort/Subtotal Cost	4.051	1.200		
RDT&E Articles Quantity				

Data Modernization & Analytical Tools:

NCIS data collection, filtering, and analysis infrastructure is unable to handle the increased flow of terrorism investigative and threat reporting of the Post 9/11-Global War on Terrorism era. NCIS must revitalize its infrastructure and its data and investigation management capabilities to effectively counter current terrorist threats. The three main components of this portfolio investment are data modernization, knowledge management, and investigation management.

The FY04 effort is a 100% contractor based requirement to modernize legacy data collection and the integration of that data. Also included are equipment purchases to acquire the necessary storage capacity. Continuation of this contractor support at a reduced level will be required in the outyears to periodically update and enhance systems, as well as equipment improvements. The cost associated with Data Modernization and Analytical Tools include contractor support for the integration of legacy data as well as the integration of commercial-off-the-shelf (COTS) analytical tools/licenses for data analysis, correlation/collaboration, taxonomies/ontologies, evidence extraction, geo-coding of data, and data visualization. Additional hardware for processing and data storage will be required as data is collected and aggregated as well as the deployment of analytical tools. Training support will be required for government analysts and information technology personnel in the operation and maintenance of systems.

FY 2004

- \$768K Contractor Support - Electronic data collection and integration of all-source data from worldwide network of NCIS staff and collection sources.
- \$1,000K Modernization of legacy data collection and storage systems.
- \$1,000K Increased fusion and sharing of all-source data (law enforcement, DOD/military).
- \$770K Implementation of NCIS data storage and access systems for seamless and intuitive worldwide access; predominantly via web systems.
- \$513K Integrate commercial tools for analytical tasks.

FY2005

- \$1,200K Contract Support - Electronic data collection and integration of all-source data from worldwide network of NCIS staff and collection sources.

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B. Accomplishments/Planned Program (Continued).

	FY 04	FY 05	FY 06	
Accomplishments/Effort/Subtotal Cost		4.080		
RDT&E Articles Quantity				

Threat Planner:
The NCIS Threat Planner is a web-based push/pull intelligence product delivery system designed for use by operational commanders in the fleet. Some unified commands are experimenting with similar capabilities to deliver intelligence and security information. NCIS has also been coordinating with PACOM which is testing the Area Security Operations Command and Control (ASOCC) and Homeland Security Command and Control Systems. The concept of the NCIS Threat Planner was a result of these collaborations and the NCIS Modernization Study.

The cost of the NCIS Threat Planner includes the use of contractors to develop a concept of operations, develop the system architecture and initial operating capability with a limited number of fleet users. Hardware and software costs include the procurement of both production and development servers as well as software licenses for database software, mapping software and other commercial web-based software. Additionally in the first year the development of a training program for Fleet users.

FY2005
\$625K Hardware and Software
\$1,748K Contract Support for Design & Implementation
\$271K Training

Digital Access
Funds are for the upgraded digitization of unclassified and classified records and upgrade of our microfilm capability within NCIS to improve our overall records management capability through better response to internal and external requests.

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B. Accomplishments/Planned Program (Continued).

	FY 04	FY 05	FY 06	7.16
Accomplishments/Effort/Subtotal Cost			2.902	1.101
RDT&E Articles Quantity				

Centralized Law Enforcement Operations Center (CLEOC)

The Naval Criminal Investigative Service (NCIS) is the Executive Agent (EA) for the Consolidated Law Enforcement Operations Center (CLEOC), an information system that combines criminal justice and law enforcement information from multiple communities throughout the Department of the Navy. In this capacity, NCIS reports to a Board of Governors (BOG) for overall oversight and management of the CLEOC system, and provides a Program Manager (PM) to guide the further development of CLEOC as it evolves to become the Department of the Navy Criminal Justice Information System (DONCJIS).

CLEOC/DONCJIS is a critical element of NCIS's Modernization efforts and will become the single report-writing and information-management system through which NCIS accomplishes its criminal investigative mission. Moreover, by direction of the DON General Counsel, CLEOC/DONCJIS will support all criminal-justice-related activities in the entire Department of the Navy and will be the single data source for management reporting of criminal justice information.

FY2006

1700K - Contractor Support- Necessary contractor resources for the Requirements Analysis, Design, Testing, Implementation, and Support of the application.

700K - Hardware & Software- Software and hardware necessary to accommodate the 17k+ users of application.

502K - Travel costs for Project Manager, Project Leaders, Executive Personnel, and other team members to visit designated locations during the development, and testing of this system.

FY2007

850K - Contractor Support- Necessary contractor resources for the Requirements Analysis, Design, Testing, Implementation, and Support of the application.

251K - Travel costs for Project Manager, Project Leaders, Executive Personnel, and other team members to visit designated locations during the development, and testing of this system.

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EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2005																																																																																											
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Info Tech Dev/Mod		PROJECT NUMBER AND NAME 2901 AAUSN IT																																																																																											
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 30%;">Funding:</th> <th style="text-align: right; width: 10%;">7.16</th> <th style="text-align: right; width: 10%;">FY 2004</th> <th style="text-align: right; width: 10%;">FY 2005</th> <th style="text-align: right; width: 10%;">FY 2006</th> <th style="text-align: right; width: 10%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>Previous President's Budget:</td> <td></td> <td style="text-align: right;">5.125</td> <td style="text-align: right;">11.833</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>Current BES/President's Budget</td> <td></td> <td style="text-align: right;">4.776</td> <td style="text-align: right;">13.203</td> <td style="text-align: right;">2.902</td> <td style="text-align: right;">1.101</td> </tr> <tr> <td>Total Adjustments</td> <td></td> <td style="text-align: right; border-top: 1px solid black;">-0.349</td> <td style="text-align: right; border-top: 1px solid black;">1.370</td> <td style="text-align: right; border-top: 1px solid black;">2.902</td> <td style="text-align: right; border-top: 1px solid black;">1.101</td> </tr> <tr> <td colspan="6" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional program reductions</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional undistributed reductions</td> <td></td> <td></td> <td style="text-align: right;">-0.124</td> <td></td> <td></td> </tr> <tr> <td> Congressional rescissions</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> SBIR/STTR Transfer</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> OSD</td> <td></td> <td></td> <td style="text-align: right;">-0.006</td> <td style="text-align: right;">0.002</td> <td style="text-align: right;">0.001</td> </tr> <tr> <td> Navy (FMB/Sponsor/SYSCOM)</td> <td></td> <td></td> <td></td> <td style="text-align: right;">2.900</td> <td style="text-align: right;">1.100</td> </tr> <tr> <td> Economic Assumptions</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Reprogrammings</td> <td></td> <td style="text-align: right;">-0.349</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional Increases</td> <td></td> <td></td> <td style="text-align: right;">1.500</td> <td></td> <td></td> </tr> <tr> <td> Subtotal</td> <td></td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.349</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">1.370</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">2.902</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">1.101</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule: Not applicable</p> <p>Technical: Not applicable</p> <p style="margin-top: 20px;">D. OTHER PROGRAM FUNDING SUMMARY: Not applicable</p> <p>E. ACQUISITION STRATEGY: Not applicable</p>						Funding:	7.16	FY 2004	FY 2005	FY 2006	FY 2007	Previous President's Budget:		5.125	11.833	0.000	0.000	Current BES/President's Budget		4.776	13.203	2.902	1.101	Total Adjustments		-0.349	1.370	2.902	1.101	Summary of Adjustments						Congressional program reductions						Congressional undistributed reductions			-0.124			Congressional rescissions						SBIR/STTR Transfer						OSD			-0.006	0.002	0.001	Navy (FMB/Sponsor/SYSCOM)				2.900	1.100	Economic Assumptions						Reprogrammings		-0.349				Congressional Increases			1.500			Subtotal		-0.349	1.370	2.902	1.101
Funding:	7.16	FY 2004	FY 2005	FY 2006	FY 2007																																																																																										
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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0605013N Information Technology Development			2901 AAUSN IT (NCIS Projects)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hdw Dev (NCIS)	TBD	TBD	7.434	0.562	TBD	0.543	TBD	0.200	TBD		8.739	
Primary Hdw Dev (CAMS)	CPFF	SAIC/ERPI, San Diego		0.320	10/04						0.320	
											0.000	
Systems Engineering (NCIS)				0.584							0.584	
Systems Engineering (CAMS)	CPFF	SAIC/ERPI, San Diego		2.610	10/04						2.610	
											0.000	
Training Development (NCIS)				0.019							0.019	
Licenses (NCIS)	BPA	DLT -Solutions Herndon ,Va	1.876								1.876	
											0.000	
											0.000	
Award Fees											0.000	
Subtotal Product Development			9.310	4.095		0.543		0.200		0.000	14.148	
Remarks:												
Development Support											0.000	
Software Development (NCIS)	TBD		0.274	3.826	TBD						4.100	
Software Development (CAMS)	CPFF	SAIC/ERPI, San Diego		0.760	10/04						0.760	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
											0.000	
Award Fees											0.000	
Subtotal Support			0.274	4.586		0.000		0.000		0.000	4.860	
Remarks:												

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDTE, N / BA-5			0605013N Information Technology Development				2901 AAUSN IT (NCIS Projects)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Develop Test & Evaluation (CAMS)	CPFF	SAIC/ERPI San Diego	8.561	0.764	TBD						9.325		
											0.000		
											0.000		
											0.000		
											0.000		
Award Fees											0.000		
Subtotal T&E			8.561	0.764		0.000		0.000		0.000	9.325		
Remarks:													
Cont Eng Support (NCIS)	TBD		1.401	3.306	TBD	1.857	TBD	0.650	TBD		7.214		
Cont Eng Support (CAMS)	CPFF	SAIC/ERPI San Diego		0.250	TBD								
Govt Eng Support (CAMS)	Labor	SSC San Diego		0.150	TBD						0.150		
Prog Mgmt Sup (CAMS)	Labor	SSC San Diego		0.030	TBD						0.030		
Travel (NCIS)				0.002		0.502	TBD	0.251	TBD		0.755		
Travel (CAMS)		SSC San Diego		0.020	Various						0.020		
SBIR Assessment											0.000		
Subtotal Management			1.401	3.758		2.359		0.901		0.000	8.419		
Remarks:													
Total Cost			19.546	13.203		2.902		1.101		0.000	36.752		
Remarks:													

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 17 of 115)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development				PROJECT NUMBER AND NAME 2903 - NAVAIR IT			
COST (\$ in Millions)	FY2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	3.249	7.160	2.477	2.464	0.911	0.948	1.000	1.048
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Configuration Management Information System (CMIS) Program is DoD's standard software system for complete and integrated configuration management (CM) of weapon systems from acquisition to disposal. CMIS efficiently manages all product structure data, including complex interrelationship between assemblies and subassemblies, technical documentation and the parts that comprise the item. CMIS is designed to manage and control configuration data to support the DoD business processes. Accurate, complete and accessible configuration data is critical to the successful operations of DoD weapon systems or tracked assets. Mission readiness, and operational capabilities are enhanced by CMIS, as instant consistent integrated configuration data is readily available to operators, maintainers and logistics personnel. This system is a CM tool available DoD wide to support all potential customers. CMIS provides users with a common database infrastructure to ensure compatibility, quality, and consistency of CM processes and provides configuration managers and analysts the validated CM information necessary for accurate maintenance, spare procurements, reliability and safety analysis, and mission readiness. Funding is budgeted to support the services of rehosting and testing of COTS upgrades to ensure objective performance of CMIS is achieved.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development	PROJECT NUMBER AND NAME 2903 - NAVAIR IT		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	7.16
Accomplishments/Effort/Subtotal Cost	3.249	2.100	2.477	2.464
RDT&E Articles Quantity				
Re-baseline CMIS Software to upgrade to latest version of Oracle, incorporate development efforts associated with COTS obsolescence, and evolve an open standard interface to other systems.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				
	FY 04	FY05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development	PROJECT NUMBER AND NAME 2903 - NAVAIR IT		

C. PROGRAM CHANGE SUMMARY:

	7.16	FY 2004	FY 2005	FY 2006	FY 2007
Funding:					
Previous President's Budget:		2.267	2.302	2.332	2.393
Current BES/President's Budget		3.249	2.100	2.477	2.464
Total Adjustments		0.982	-0.202	0.145	0.071
Summary of Adjustments					
Congressional program reductions					
Congressional undistributed reductions			-0.199		
Congressional rescissions					
SBIR/STTR Transfer		-0.046			
OSD			-0.003	0.284	0.272
Navy (FMB/Sponsor/NAVAIR)				-0.194	-0.237
Economic Assumptions				0.055	0.036
Reprogrammings		1.028			
Reprioritization					
Congressional increases					
Subtotal		0.982	-0.202	0.145	0.071

Schedule:

Not Applicable

(U) Technical:

Not Applicable

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development			PROJECT NUMBER AND NAME 2903 - NAVAIR IT					
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>7.16</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
Not Applicable.										
E. ACQUISITION STRATEGY:										
The CMIS Program used Joint Logistics Systems Center (JLSC) funds to evolve CMIS to Software Release 5.0. At this point, in June 1998 CMIS was transferred to the Navy as executive agent and NAVAIR as program manager. Program Budget Decision 401 transferred joint funding from JLSC to NAVAIR to continue evolving CMIS. The CMIS Program Manager continues to evolve the program to keep pace with cost, Military Standards, and evolving commercial standards. Various contractors using competitively awarded contracts have supported the program. Currently, Intergraph Corporation is the CMIS integration contractor selected through a competitively awarded IDIQ contract.										

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0605013N Information Technology Development			2903 - NAVAIR IT						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
			19.215								19.215	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			19.215	0.000		0.000		0.000		0.000	19.215	
Remarks:												
Software Development (NALDA)	C/CPAF	LockheedMartin, Manassas, VA	2.303								2.303	2.303
Award Fee (6%) (NALDA)	C/CPAF	LockheedMartin, Manassas, VA	0.147								0.147	0.147
Software Development (CMIS)	C/CPAF	TeamQualtec, California, MD	0.415								0.415	0.415
Award Fee (6%) (CMIS)	C/CPAF	TeamQualtec, California, MD	0.024								0.024	0.024
Software Development (CMIS)	MIPR	AMCOM, Redstone Arsenal, AL	0.155								0.155	
Software Development (CMIS)	WX	NAWC-AD Pax River, Md	0.050								0.050	
Software Development (NALDA)	C/IDIQ	Intergraph, Huntsville AL	0.009								0.009	0.009
Software Development (CMIS)	C/IDIQ	Intergraph, Huntsville AL	6.070	1.492	11/04	2.021	11/05	1.873	11/06		11.456	10.474
Subtotal Support			9.173	1.492		2.021		1.873		0.000	14.559	
Remarks: Funding will be used for rehosting and testing of COTS upgrades to ensure objective performance of the CMIS system is achieved and testing of system migration from legacy configuration management systems into DOD CMIS.												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)									DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE&E, N / BA-5			0605013N Information Technology Development			2903 - NAVAIR IT						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
			19.864								0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Program Mgmt Support (NALDA)	WX	NAWC-AD Pax River, MD	0.017								0.017	
Program Mgmt Support (CMIS)	WX	NAWC-AD Pax River, MD	1.740	0.608	11/04	0.456	11/05	0.591	11/06	Continuing	Continuing	
											0.000	
											0.000	
											0.000	
Subtotal Management			1.757	0.608		0.456		0.591		Continuing	Continuing	
Remarks:												
Total Cost			10.930	2.100		2.477		2.464		Continuing	Continuing	
Remarks:												

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 23 of 115)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																							DATE:				February 2005					
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME												
RDT&E, N / BA-5										0605013N Information Technology Development										2903 - NAVAIR IT												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones	MS IIIA ▲				MS IIIB △				MS IIIC △				MS IIID △																			
Contract Award		▲			△				△				△																			
Engineering Milestones																																
TRB/CCB/CAT		■	■			■				■				■																		
Test & Evaluation Milestones																																
TRR/FPT/BETA				■	■		■			■			■			■																
Production Milestones																																
Complete Annual SW Release	SW Release 7.0 ▲				SW Release 8.0 △				Annual SW Release △				Annual SW Release △																			

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&BA-5	PROGRAM ELEMENT 0605013N Information Technology Development				PROJECT NUMBER AND NAME 2903 - NAVAIR IT			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
CMIS:								
Complete SW Release 7.0	1Q							
Contract Award - SW Release 8.0	2Q			#VALUE!				
Engineering Milestones - TRB/CCB/CAT	2Q/3Q							
T&E Milestones - TRR/FPT/BETA	4Q	1Q						
Complete SW Release 8.0		1Q						
Contract Award - Annual SW Release		1Q						
Engineering Milestones - TRB/CCB/CAT		2Q						
T&E Milestones - TRR/FPT/BETA		3Q/4Q						
Complete Annual SW Release			1Q					
Contract Award - Annual SW Release			1Q					
Engineering Milestones - TRB/CCB/CAT			2Q					
T&E Milestones - TRR/FPT/BETA			3Q/4Q					
Complete Annual SW Release				1Q				
Contract Award - Annual SW Release				1Q				
Engineering Milestones - TRB/CCB/CAT				2Q				
T&E Milestones - TRR/FPT/BETA				3Q/4Q				
Complete Annual SW Release								
Contract Award - Annual SW Release								
Engineering Milestones - TRB/CCB/CAT								
T&E Milestones - TRR/FPT/BETA								
Complete Annual SW Release								
Contract Award - Annual SW Release								
Engineering Milestones - TRB/CCB/CAT								
T&E Milestones - TRR/FPT/BETA								
Complete Annual SW Release								
Contract Award - Annual SW Release								
Engineering Milestones - TRB/CCB/CAT								
T&E Milestones - TRR/FPT/BETA								
Complete Annual SW Release								
Contract Award - Annual SW Release								
Engineering Milestones - TRB/CCB/CAT								
T&E Milestones - TRR/FPT/BETA								

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 25 of 115)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N NAVY INFO TECH DEV/MOD				PROJECT NUMBER AND NAME 2904/9258/9407/9408/9409/9602/9604 NAVSEA IT DEV/MOD PROJECT			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	12.310	7.160	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: 2904 This is not a new start. These funds were moved from O&M,N to RDT&E,N due to Congressional (HAC) direction and subsequent OUSD(C) guidance to adjust Information Technology (IT) budgeting. This program includes the funding for Information Technology (IT) support at NAVSEA HQ. This includes modifications/enhancements to IT systems within Headquarters such as Ships Configuration Logistics Support Information Systems (SCLISIS), Command Document Management System (CDMS) and Integrated Class Maintenance Plans (ICMP). The Task Force Web (TFW) is responsible for the development of the infrastructure needed for the Web Enabled Navy. The Web Enabled Navy is currently researching, developing and implementing a overall plan to web technologies to create integrated and transformational information exchange for the Navy. The goal is to better enhance the Navy's capability to perform combat/mission support in a fully mobile, joint environment for both deployable and non-deployable units. Through Web enabling technologies, Navy personnel will have the ability to tailor the information flow and information access to meet their requirements. This funding also supports modification to existing software, hardware changes, contractual program management and technical support to modify/enhance the NAVSEA HQ systems and infrastructure. The NAVSEA HQ network infrastructure architecture requires the development, analysis and testing of IT prototypes, such as Remote Access and Data Management. Also supported is software development and upgrades for IT systems and infrastructure, to include COTS software packages/systems; developmental testing and initial operational test and evaluation required prior to system acceptance/approval. 9258 Navy Readiness Response Center - Congressional Add funding provided to improve fleet support processes by reducing fleet workload and improving the shore support infrastructure. Specifically these funds will be used to assess Navy troubled systems and develop processes for assisting the fleet in expedient resolution of these systems. 9407 On-line Web-based learning Development Prog - Congressional Add. 9408 Virtual Perimeter Monitoring System - Congressional Add. 9409 Wireless Sensor Technologies - Congressional Add provided for research and development efforts for pursuing Wireless Sensor Technology as a Condition Based Maintenance (CBM) enabling technology in support of the Navy Distance Support program. The technology will be developed to meet DOD requirements for encryption of wirelessly transmitted data certified to FIPS 140-2 as well as support joint services interoperability encryption profiles. 9602 Navy Readiness Response Center - Congressional Add funding provided to improve fleet support processes by reducing fleet workload and improving the shore support infrastructure. Specifically these funds will be used to assess Navy troubled systems and develop processes for assisting the fleet in expedient resolution of these systems.								

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 26 of 115)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N NAVY INFO TECH DEV/MOD	PROJECT NUMBER AND NAME 2904 NAVSEA IT DEV/MOD PROJECT																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;"></td><td style="width: 15%; text-align: center;">FY 04</td><td style="width: 15%; text-align: center;">FY 05</td><td style="width: 15%; text-align: center;">FY 06</td><td style="width: 25%; text-align: center;">7.16</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.391</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table>						FY 04	FY 05	FY 06	7.16	Accomplishments/Effort/Subtotal Cost	0.391	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	7.16															
Accomplishments/Effort/Subtotal Cost	0.391	0.000	0.000	0.000															
RDT&E Articles Quantity																			
Miscellaneous Technical Support - Infrastructure Enhancement																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;"></td><td style="width: 15%; text-align: center;">FY 04</td><td style="width: 15%; text-align: center;">FY 05</td><td style="width: 15%; text-align: center;">FY 06</td><td style="width: 25%; text-align: center;">FY 07</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.037</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.037	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.037	0.000	0.000	0.000															
RDT&E Articles Quantity																			
Integration Class Maintenance Plans (ICMP)																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;"></td><td style="width: 15%; text-align: center;">FY 04</td><td style="width: 15%; text-align: center;">FY 05</td><td style="width: 15%; text-align: center;">FY 06</td><td style="width: 25%; text-align: center;">FY 07</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.093</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.093	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.093	0.000	0.000	0.000															
RDT&E Articles Quantity																			
Ships Configuration Logistics Support Information Systems (SCLSIS)																			

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N NAVY INFO TECH DEV/MOD	PROJECT NUMBER AND NAME 2904 NAVSEA IT DEV/MOD PROJECT		
B. Accomplishments/Planned Program (Cont.)				
	FY 04	FY 05	FY 06	7.16
Accomplishments/Effort/Subtotal Cost	0.367	0.000	0.000	0.000
RDT&E Articles Quantity				
Command Document Management Systems (CDMS)				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.774	0.000	0.000	0.000
RDT&E Articles Quantity				
Task Force Web				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.212	0.000	0.000	0.000
RDT&E Articles Quantity				
Various Software Development/Upgrades and Fleet Support System				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N NAVY INFO TECH DEV/MOD	PROJECT NUMBER AND NAME 2904/9258/9407/9408/9409/9602/9604 NAVSEA IT DEV/MOD PROJECT		

C. PROGRAM CHANGE SUMMARY:

Funding:	7.16	FY 2004	FY 2005	FY 2006	FY 2007
Previous President's Budget: (FY 05 Pres Controls)		12.706	0.000	0.000	0.000
Current BES/President's Budget (FY 06/07 OSD Controls)		12.310	8.617	0.000	0.000
Total Adjustments		-0.396	8.617	0.000	0.000
Summary of Adjustments					
FY04 Non-Pay Inflation Savings		-0.010			
FY04 SBIR		-0.401			
Execution Realignment		0.023			
Cancelled Account		-0.008			
Congressional Plus-Up (9407)			2.575		
Congressional Plus-Up (9602)			2.574		
Congressional Plus-Up (9604)			3.468		
		-0.396	8.617	0.000	0.000

Schedule:

Not Applicable

Technical:

Not Applicable

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development			PROJECT NUMBER AND NAME 2905 Manpower, Personnel, Training, Simulation, and Human Factors			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	0.970	8.160	0.000	0.000				
RDT&E Articles Qty	1	1						
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This non-acquisition category program provides funds for continued (but less risky) R&D for broader application of advanced technologies to transition successful 6.3 research proof-of-concept demonstrations into operational use. Development of prototype systems to support and/or improve operational requirements of manpower and personnel sponsors is the primary goal of this Engineering Development Program. The 6.5 R&D Program features the use of a broad range of technologies from cognitive science and ability testing techniques, mathematical modeling and optimization, statistical and econometric forecasting, intelligent systems, data visualization, data mining, simulation, decision support systems, and new database and communications configuration.</p>								

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development	PROJECT NUMBER AND NAME 2905 Manpower, Personnel, Training, Simulation, and Human Factors																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%; text-align: center;">FY 04</td> <td style="width: 15%; text-align: center;">FY 05</td> <td style="width: 15%; text-align: center;">FY 06</td> <td style="width: 25%; text-align: center;">7.16</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">0.970</td> <td style="text-align: center;">0.024</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td style="text-align: center;">1</td> <td style="text-align: center;">1</td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 10px;"> <p>(U)</p> <p>FY 2004</p> <ul style="list-style-type: none"> • (U) (\$.080) Completed STEAR (Skill Assessment, Training, Evaluation, and Assistance for Recruiters) project. Provided guidelines to sponsor to implement final version of Recruiter Assessment Battery (RAB). • (U) (\$.124) Completed the Strength Planning and Budget System Integration (STP/BSI) project. Completed modeling and computer based training for enlisted strength planners. • (U) (\$.090) Continued prototype development of URL Officer Career Path Simulation model. Implemented Data Collection Plan for model use. Extended application of the model to Aviator Community. Developed reporting requirements and analyzed data for full implementation. Mapped Submarine and Fleet Support Officer Career Milestones in preparation of extending model application to these communities in FY 2005. • (U) (\$.099) Completed 6.5 R&D transitioning to operational use of Comprehensive Officer Force Management Environment models/system (CHROME). Compared Strength Planner and Officer Community Manager forecasts and actual data. Developed the capability within the model to: allocate officer accessions; plan officer promotions; predict out-year officer strength losses; account for external variables that influence changes to the officer force; incorporate pay-grade changes that occur with actual losses; and, added graphical output. • (U) (\$.077) Completed transitioning of the Models of Navy Compensation and Personnel Behavior (MODCOMP). • (U) (\$.092) Began transition of CNP Quick Polling System. • (U) (\$.206) Began 6.5 R&D transitioning to operational use of Rating Identification Engine (RIDE). Demonstrated Skill-Job Matching Algorithm known as RIDE; a broad spectrum assignment algorithm that optimally assigns individuals to jobs, increasing job options for recruits while reducing training attrition, increasing first-pass A-school success, and maximizing school and job performance. • (U) (\$.100) Began transition of the Jobs & Occupational Interests in the Navy (JOIN) / FLEET JOIN System. JOIN will be a web-enabled tool as a means to assess and utilize occupational interests to improve the quality of classification during first term of enlistment, as well as a tool to be used during FLEET rating conversions. • (U) (\$.102) Continued prototype development of Enlisted Manpower and Personnel Integrated Planning System (EMPIPS). <p>FY 2005</p> <ul style="list-style-type: none"> • (U) (\$.024) Complete prototype development of CNP Quick Polling System for the Chief of Naval Personnel. </div>						FY 04	FY 05	FY 06	7.16	Accomplishments/Effort/Subtotal Cost	0.970	0.024	0.000	0.000	RDT&E Articles Quantity	1	1		
	FY 04	FY 05	FY 06	7.16															
Accomplishments/Effort/Subtotal Cost	0.970	0.024	0.000	0.000															
RDT&E Articles Quantity	1	1																	

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development	PROJECT NUMBER AND NAME 2905 Manpower, Personnel, Training, Simulation, and Human Factors		

C. PROGRAM CHANGE SUMMARY:

	7.16	FY 2004	FY 2005	FY 2006	FY 2007
Funding:		0.970	0.024	0.000	0.000
Previous President's Budget:		0.970	0.024	0.000	0.000
Current BES/President's Budget:		0.000	0.000	0.000	0.000
Total Adjustments		0.000	0.000	0.000	0.000
Summary of Adjustments					
FY 04 SBIR		-0.030			
Subtotal					
		-0.030	0.000	0.000	0.000

Schedule: Not Applicable

Technical: Not Applicable

D. OTHER PROGRAM FUNDING SUMMARY:

(U) Related RDT&E: (U) PE 0604703N (U) PE 0601152N (U) PE 0601153N (U) PE 0602233N (U) PE 0602722A (U) PE 0603707N (U) PE 0603731A (U) PE 0603704F	Personnel, Training, Simulation and Human Factors In-House Independent Lab Research Defense Research Sciences Mission Support Technology Personnel and Training Manpower, Personnel and Training Advanced Technology Development Manpower and Personnel Manpower and Personnel Systems Technology
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E. ACQUISITION STRATEGY: Not applicable

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EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME			
RDT&E, N / BA-5	06005013N, IT DEV/MOD				2905 - BUPERS IT (EMPRS)			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	7.197	7.160	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Electronic Military Personnel Record System (EMPRS) is an electronic document/image based system that serves as the repository for all Department of Navy (DoN) official military personnel record images. It supports retired, active, and reserve military personnel in the functional areas of selection board operations, casualty management, mobilization, and other military personnel management functions. EMPRS supports over 180 statutory and administrative selection boards annually providing over 12 million service record images, covering promotions, assignments, and retention. Additionally, it provides the Navy with the capability to meet the statutory requirement to maintain permanent personnel records for a period of 62 years. After 62 years, Navy permanent records are provided to National Archives and Records Administration and become public records. Current Acquisition Strategy is a two-phased approach to Technology Refresh (TR) EMPRS and achieve Milestone C designation, followed by actions to reengineer the system commencing with Business Process Reengineering (BPR). The TR system, which will achieve Milestone C, will result in the disposal of the legacy system and the beginning of sustainment on the TR system. This supports the N1 Architecture and Single Integrated Human Resource Strategy (SIHRS). EMPRS was authorized to commence TR in March 2003 with a completion time of early FY05 .</p>								

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 33 of 115)

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N, IT DEV/MOD	PROJECT NUMBER AND NAME 2905 - BUPERS IT (EMPRS)		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	7.197	0.826	0.000	7.160
RDT&E Articles Quantity				
(U)				
1. FY 2004 PLAN (\$7,197K): (\$1505K) Stabilization of Legacy System (\$1505K) Program Management Office and development contract services to support stabilization of current system, development of software and hardware system interface between EMPRS and OSD activities. (\$5692K) Tech Refreshment - System Development and Demonstration. (\$5692K) Program Management Office and development contract services to support acquisition and systems engineering processes (R&D, business design, development, testing, programming, and documentation).				
2. FY 2005 PLAN (\$826K): (\$826K) Tech Refreshment - System Development and Demonstration. (\$826K) Program Management Office and development contract services to support acquisition and systems engineering processes (R&D, business design, development, testing, programming, and documentation).				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N, IT DEV/MOD	PROJECT NUMBER AND NAME 2905 - BUPERS IT (EMPRS)		

B. PROGRAM CHANGE SUMMARY:

Funding:		FY 2004	FY 2005	FY 2006	FY 2007
Previous President's Budget: (FY 05 Pres Controls)	7.16	6.900	0.873	0.000	0.000
Current President's Budget (FY 06 Pres Controls):		7.197	0.826	0.000	0.000
Total Adjustments		0.297	-0.047	0.000	0.000
Summary of Adjustments					
Reprogramming of RDT&E within LI 2905		0.500			
FY04 SBIR (9-Apr-04)		-0.203			
Section 8122: Assumed Management Improv			-0.003		
Section 8131: Non-Statutory Funding Set Aside			-0.005		
Section 8105: Reduce IT Development Cost			-0.039		
Subtotal		0.297	-0.047	0.000	0.000

Schedule: Not Applicable

Technical: Not Applicable

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EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0605013N, IT DEV/MOD			PROJECT NUMBER AND NAME 2905 - BUPERS IT (EMPRS)					
C. OTHER PROGRAM FUNDING SUMMARY:											
<u>Line Item No. & Name</u>		<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
		7.160									
	OPN	1.529	0.000	0.000	0.000	0.000	6.876	7.072	7.220	N/A	22.697
 D. ACQUISITION STRATEGY:											
<p>The requirements imposed by the Department of Defense (DoD) Acquisition Management Framework guidelines and EMPRS Key Performance Parameters (KPPs) have not been satisfied to enable EMPRS to move to Acquisition Milestone C. Present EMPRS technology, both software and hardware, does not meet requirements for information assurance, reliability, interoperability, and maintainability. The EMPRS acquisition plan includes a Technology Refreshment (TR) of the current system using Commercial Off The Shelf (COTS) technology that will correct known deficiencies and enable EMPRS to move to Milestone C. The proposed TR project will also bring EMPRS in compliance with current directives and will support the Deputy Chief of Naval Operations, Manpower and Personnel (N1) Single Integrated Human Resources Strategy (SIHRS), and make it compatible with the Navy Marine Corps Intranet (NMCI) architecture. The technology refreshment will provide an integrated document storage and records management solution with system failover capability.</p>											

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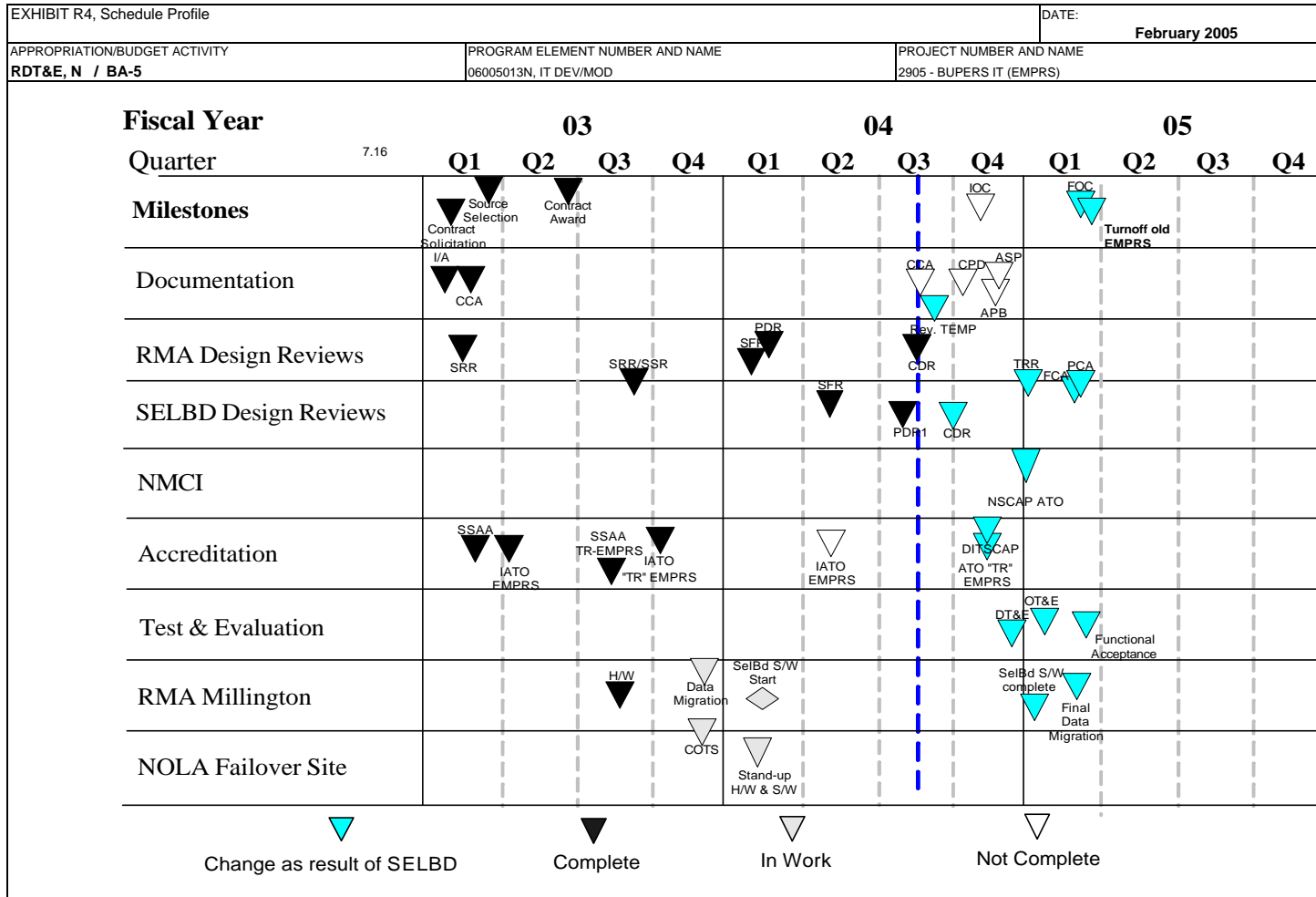
Exhibit R-3 Cost Analysis (page 1)								DATE:				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			06005013N, IT DEV/MOD			2905 - BUPERS IT (EMPRS)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total FY 04 Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	T&M	FISC Contract/NPC Millington	5.692	0.826	1-Oct-04	0.000		0.000			6.518	
Ancillary Hardware Development		25.7	15.862								0.000	
Component Development											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	T&M	GSA Contractor/NPC Millington	1.505	0.000		0.000		0.000			1.505	
Training Development		25.1									0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			7.197	0.826		0.000		0.000		0.000	8.023	

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ACRONYM LISTING	
APB	Acquisition Program Baseline
ASP	Acquisition Strategy Plan
CCA	Clinger-Cohen Act
CDR	Critical Design Review
COTS	Commercial of the Shelf
DITSCAP	DoD Information Technology Security Certification and Accreditation Process
DT&E	Development, Test & Evaluation
FCA	Functional Configuration Audit
FOC	Full Operational Capability
I/A	Information Assurance
IATO	Interim Authority to Operate
IOC	Initial Operational Capability
IOT&E	Initial Operational Test & Evaluation
IPR	Interim Progress Review
MS C	Milestone C
PCA	Physical Configuration Audit
PDR	Preliminary Design Review
SAMP	Single Acquisition Management Plan
SelBD	Selection Board
SFR	System Functional Review
SRR	System Requirement Review
SSAA	System Security Authorization Agreement
SSR	Software Specification Review
TEMP	Test & Evaluation Master Plan
TRR	Test Readiness Review

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Exhibit R-4a, Schedule Detail						DATE:		
						February 2005		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME		
RDT&E, N / BA-5		06005013N, IT DEV/MOD				2905 - BUPERS IT (EMPRS)		
Schedule Profile	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Acquisition Program Baseline		4Q						
Clinger-Cohen Act	1Q	3Q						
Critical Design Review		3Q						
Commercial Off The Shelf	2Q-3Q			01/00				
Contract Awards	2Q							
Contract Source Selection	1Q							
Data Migration		4Q	1Q					
DoD Information Technology Security Certification and Accreditation Process		4Q						
Development, Test & Evaluation		4Q						
Functional Configuration Audit		4Q						
Full Operational Capability			1Q					
Information Assurance	1Q							
Interim Authority to Operate (Old EMPRS)	2Q	2Q						
Interim Authority to Operate (New EMPRS)		4Q						
Initial Operational Capability		4Q						
Operational Test and Evaluation			1Q					
Interim Progress Review	3Q-4Q	1Q						
Physical Configuration Audit			1Q					
Preliminary Design Review		1Q						
Selection Board Software		1Q-4Q	1Q					
System Functional Review		2Q						
System Requirement Review	3Q							
System Security Authorization Agreement	3Q							
Software Specification Review	3Q							
Test Readiness Review			1Q					
Turn-off old EMPRS			1Q					

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Information Technology Dev/Mod				PROJECT NUMBER AND NAME 2907 SPAWAR IT		
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Project Cost		7.160	1.689	6.126	1.773	1.806	1.840	1.881
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>Funding is provided to modernize legacy software programs (e.g., COBOL, FORTRAN, etc.) and flat-file databases with fourth-generation language software and relational database architectures. Web-enabling enhancements for several programs is provided:</p> <p>AAUSN IT: Wide Area Work Flow – Receipt and Acceptance (WAWF-RA) is an invoicing application that encompasses a number of Federal, DoD and Navy electronic solutions (projects) which, when combined, enable a Department of Navy (DoN) end-to-end procurement/financial management process (including receipt, acceptance and payment). Current and future R&D funded development focuses on interface design and implementation to allow electronic data and information to pass to and from WAWF and then seamlessly distribute the electronic data to other Federal and Department of Defense (DoD) systems requiring such information. Navy Air Force Interface (NAFI) is an application that reflects the "Expanding e-Government" aspect of the Presidents Management Agenda, and was created based on recommendations from the Quicksilver Taskforce to share electronic contract information more quickly between levels of government, and to automate internal process to reduce costs. Current and future R&D funded development focuses on making NAFI the aggregated data source for contract and procurement information within the DoD and the Federal Government. Funding will also be used to integrate NAFI with other procurement applications providing a truly End-to-End Procurement /Financial process. Cost savings through reduction of problem disbursements and prompt pay interest, as well as resultant labor efficiency gains, will also be achieved. The Universal Interface (UI) is a DoN initiative designed to electronically integrate former "stove piped" Requirements Generation, Contracting, Financial, logistics and other acquisition system application data to create a DoN end-to-end acquisition process. This initiative provides system-independent information exchange to allow sites with multiple requiring systems to interoperate, route and exchange procurement information across organizational boundaries. This initiative will provide an integration hub to route, translate, and transmit information amongst procurement applications.</p> <p>JALIS: This system provides an airlift data collection and analysis system for the purpose of airlift and aircraft management. JALIS supports the objectives and strategies presented in the DoD Transportation Corporate Information Management (CIM) Strategic Plan and Enterprise Integration (EI) Implementation Strategy as directed for DoD transportation management responsibilities in the USTRANSCOM Joint transportation CIM Center (JTCC) Abbreviated Integration Decision Paper (IDP) for the JALIS.</p> <p>Total Force Manpower Management System (TFMMS): This system is the single authoritative source for activity and manpower data and sends the demand signal to the Navy's military distribution systems to assure personnel readiness. It provides the ability to track manpower requirements and authorizations for active and reserve military, civilians, and contractors. TFMMS aids in defending Program Objective Memorandum and budget requests to assure the Navy's billet base supports the Navy's operational requirements and quality of life initiatives. The reengineered TFMMS referred to as Total Force Manpower Management Program (TFMMP) provides the foundation position management structure for all Sea Warrior HR; it defines skills, knowledge, and abilities needed for each position created based on workload. TFMMP is designed to support the Deputy, Chief of Naval Operations (DCNO), Manpower and Personnel (N1). To satisfy this mission, TFMMP will provide a single authoritative source for manpower resources, requirements and authorizations for active military (officer and enlisted), reserves, civilians, contractors, and other categories of manpower. Key elements of the program is to develop an integrated HR environment to include Position Management (position to personnel visibility). The major objective of the redesign of TFMMP is to enhance mission support to the Navy by improving quality and integration of critical data, and providing a single authoritative source for manpower data and the means to plan and track all manpower resources (allocations, requirements and authorizations). The redesign of TFMMS will support existing and future initiatives that support the N1 systems migration effort and the Sea Warrior initiative by providing the foundation position management structure for all Sea Warrior HR.</p> <p>Sea Warrior: Human Resources component of the Chief of Naval Operation's (CNO) Sea Power 21 Transformation Roadmap, focused on maximizing human capital and improving fleet readiness by ensuring the right skills are in the right place at the right time. From an information technology perspective, Sea Warrior provides a comprehensive Web-based Career Management System (CMS) that implements the Navy's Single Integrated Human Resources Strategy (SIHRS) for stakeholders, including but not limited to Enlisted Community Managers, Manning Control Authorities (MCA), Placement Managers, Detailers, Losing/Gaining Commands and most importantly, the individual Sailor. In FYs 2003 and 2004, this initiative was supported by Congressional RDTE funding (Project 9088). This funding was provided for Enterprise reengineering, integration and Web enablement of Manpower and Personnel legacy systems.</p>								

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 40 of 115)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Information Technology Dev/Mod	PROJECT NUMBER AND NAME 2907 SPAWAR IT																	
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<p>(U) C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"></th> <th style="text-align: right;">7.16</th> <th style="text-align: right;">FY 2004</th> <th style="text-align: right;">FY 2005</th> <th style="text-align: right;">FY 2006</th> <th style="text-align: right;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>(U) Funding:</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY05 President's Budget</td> <td></td> <td style="text-align: right;">2.220</td> <td style="text-align: right;">1.710</td> <td style="text-align: right;">1.749</td> <td style="text-align: right;">1.727</td> </tr> <tr> <td>FY06 President's Budget Submit</td> <td></td> <td style="text-align: right;">2.133</td> <td style="text-align: right;">1.689</td> <td style="text-align: right;">6.126</td> <td style="text-align: right;">1.773</td> </tr> <tr> <td>Total Adjustments</td> <td></td> <td style="text-align: right; border-top: 1px solid black;">-0.087</td> <td style="text-align: right; border-top: 1px solid black;">-0.021</td> <td style="text-align: right; border-top: 1px solid black;">4.377</td> <td style="text-align: right; border-top: 1px solid black;">0.046</td> </tr> <tr> <td colspan="6" style="padding-top: 10px;">Summary of Adjustments * Include Issue No. & Cong. Language Sec. if applicable</td> </tr> <tr> <td>Sea Warrior N1 Specific</td> <td></td> <td></td> <td></td> <td style="text-align: right;">4.500</td> <td></td> </tr> <tr> <td>Section 8094: Management Improvements</td> <td></td> <td style="text-align: right;">-0.006</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Section 8126: Efficiencies/Revised Econ. Assum</td> <td></td> <td style="text-align: right;">-0.019</td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY04 SBIR (9-Apr-04)</td> <td></td> <td style="text-align: right;">-0.060</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Section 8122: Assumed Management Improv</td> <td></td> <td></td> <td style="text-align: right;">-0.005</td> <td></td> <td></td> </tr> <tr> <td>Section 8131: Non-Statutory Funding</td> <td></td> <td></td> <td style="text-align: right;">-0.010</td> <td></td> <td></td> </tr> <tr> <td>OSD</td> <td></td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">-0.006</td> <td style="text-align: right;">-0.190</td> <td style="text-align: right;">-0.002</td> </tr> <tr> <td>Navy (FMB/Sponsor/SPAWAR)</td> <td></td> <td style="text-align: right;">-0.002</td> <td></td> <td style="text-align: right;">0.067</td> <td style="text-align: right;">0.048</td> </tr> <tr> <td>Subtotal</td> <td></td> <td style="text-align: right; border-top: 1px solid black;">-0.087</td> <td style="text-align: right; border-top: 1px solid black;">-0.021</td> <td style="text-align: right; border-top: 1px solid black;">4.377</td> <td style="text-align: right; border-top: 1px solid black;">0.046</td> </tr> </tbody> </table> <p style="margin-top: 20px;">(U) Schedule: Not Applicable</p> <p style="margin-top: 20px;">(U) Technical: Not Applicable</p>						7.16	FY 2004	FY 2005	FY 2006	FY 2007	(U) Funding:						FY05 President's Budget		2.220	1.710	1.749	1.727	FY06 President's Budget Submit		2.133	1.689	6.126	1.773	Total Adjustments		-0.087	-0.021	4.377	0.046	Summary of Adjustments * Include Issue No. & Cong. Language Sec. if applicable						Sea Warrior N1 Specific				4.500		Section 8094: Management Improvements		-0.006				Section 8126: Efficiencies/Revised Econ. Assum		-0.019				FY04 SBIR (9-Apr-04)		-0.060				Section 8122: Assumed Management Improv			-0.005			Section 8131: Non-Statutory Funding			-0.010			OSD		0.000	-0.006	-0.190	-0.002	Navy (FMB/Sponsor/SPAWAR)		-0.002		0.067	0.048	Subtotal		-0.087	-0.021	4.377	0.046
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EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Information Technology Dev/Mod			PROJECT NUMBER AND NAME 2907 SPAWAR IT			

(U) D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>8.445</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
JALIS	0.395	0.394	0.45	0.426	0.436	0.447	0.457	0.464	Continuing	Continuing
TFMMS	0.848	0.000	0.000	0.000	0.000	0.000	0.000	0.000	N1 Realignment FY-05 and out	
AAUSN IT	0.890	1.295	1.347	1.347	1.370	1.393	1.424	1.448	Continuing	Continuing

(U) E. ACQUISITION STRATEGY:

The mission of SPAWARINFOTECNEN is to support Sea Warrior/N1 Migration to develop a fully integrated PeopleSoft capability that meets Sea Warrior/N1 Migration objectives. In order to attain the aforementioned objectives, the SPAWARINFOTECNEN will develop incremental production capabilities that enhance the current capabilities and incorporate authoritative cleansed data. To achieve this, the authoritative sources of data must be identified, data must be corrected (cleansed), and then the data must be converted to the new standard and format. To ensure data integrity once the authoritative data has been cleansed, it must be maintained and controlled in its new state. Similarly, while this cleansing and conversion process progresses, the personnel community must be able to maintain continuity of operations.

The Sea Warrior/N1 Migration solution will address and rectify the issues and deficiencies currently being experienced by multiple legacy systems. Existing Manpower and Personnel (M&P) systems are not responsive enough to fully support current integrated operational requirements or to maintain cleansed data. Furthermore, the technological structure, which is extremely complex and programmer-dependent, does not provide the flexibility necessary to respond quickly to policy changes. A number of the systems are mainframe-based and batch-oriented, and would require a substantial upgrade to meet the data migration requirements of DIMHRS and to implement the enhanced capabilities to meet the requirements for distributed data and field-level processing. Therefore, to achieve these objectives the Sea Warrior/N1 Migration solution will implement an integrated version of PeopleSoft, with extensions required by law, that is compatible with the DIMHRS core structure. To help ensure data integrity and maintain a single authoritative source of personnel data throughout the project life cycle, data shall be cleansed and migrated from legacy systems to the Sea Warrior/N1 Migration solution. Once the data is consolidated, business processes must be in place to use and maintain the data. Then the associated legacy system will be retired. Current Sea Warrior/N1 Migration development efforts are comprised of a number of related projects. Execution of the program strategy will achieve the goal of a fully integrated system that provides a single authoritative source of data for DIMHRS. These disparate efforts shall be integrated into a program structure using a disciplined program and system engineering approach. Moreover, each development effort shall follow a common set of plans, procedures, and development life cycle. One objective of Sea Warrior/N1 Migration is to mitigate the high risk of cost and schedule impacts associated with migrating Navy personnel data to DIMHRS. These high-risk activities include, but are not limited to, data identification, data extraction, data cleansing, and data conversion and loading. In preparation for migrating this data to DIMHRS, the Sea Warrior/N1 Migration solution is envisioned to establish a single source of input for providing a consolidated and cleansed set of all required Navy personnel data. A second objective is for the integrated system to support the enhanced capabilities required to meet the Sea Warrior vision of improved Navy Human Capital Management capabilities that are not provided by the implementation of DIMHRS. Moreover, the Navy is reorienting its personnel readiness strategy to focus on retention and force shaping. Naval strategy currently is based around adjusting the mission capability of a ship for a particular operation. Both strategies require a seamlessly integrated management capability of manpower requirements and personnel inventory across the entire Navy.

CSA Contract

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5				PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod				PROJECT NUMBER AND NAME 2907 SPAWAR IT				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development			8.656								8.656	
Ancillary Hardware Development			0.364								0.364	
Systems Engineering			0.356	0.170		0.170		0.170			0.866	
Licenses			0.050								0.050	
Tooling											0.000	
GFE											0.000	
Award Fees			0.141								0.141	
Subtotal Product Development			9.567	0.170		0.170		0.170		0.000	10.077	
Remarks: AAUSN IT - In process of determining new contract vehicle for FY-05 and beyond. All AAUSN IT Programs will be recompeted for FY-05 and beyond.												
Development Support	GSA	New Orleans, LA	0.934	0.227	10/04	0.260	10/05	0.247	10/06		1.668	
Software Development	GSA	New Orleans, LA	9.191	0.870	10/04	0.889	10/05	0.881	10/06		11.831	
Training Development	WX	SITC, New Orleans, LA	0.048	0.006	10/04	0.009	10/05	0.008	10/06		0.071	
Integrated Logistics Support			0.153								0.153	
Configuration Management	GSA	New Orleans, LA	0.017	0.004	10/04	0.004	10/05	0.004	10/06		0.029	
Studies & Analysis			0.018								0.018	
GFE											0.000	
Subtotal Support			10.361	1.107		1.162		1.140		0.000	13.770	
Remarks: AAUSN IT - In process of determining new contract vehicle for FY-05 and beyond. All AAUSN IT Programs will be recompeted for FY-05 and beyond.												

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod			PROJECT NUMBER AND NAME 2907 SPAWAR IT						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation			7.623	0.210		0.219		0.221			1.035	
Operational Test & Evaluation			0.057								0.057	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Subtotal T&E			0.442	0.210		0.219		0.221		0.000	1.092	
Remarks: AAUSN IT - In process of determining new contract vehicle for FY-05 and beyond. All AAUSN IT Programs will be recompeted for FY-05 and beyond.												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support			0.081	0.194		0.240		0.234			0.749	
Travel	WX	SITC, New Orleans, LA	0.021	0.008	10/04	0.006	10/05	0.008	10/06		0.043	
Subtotal Management			0.102	0.202		0.246		0.242		0.000	0.792	
Remarks: AAUSN IT - In process of determining new contract vehicle for FY-05 and beyond. All AAUSN IT Programs will be recompeted for FY-05 and beyond.												
Total Cost			11.816	1.689		1.797		1.773		0.000	17.075	
Remarks:												

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Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development			7.160								7.160	
Ancillary Hardware Development											0.000	
Systems Engineering											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			7.160	0.000		0.000		0.000		0.000	7.160	
Remarks:												
Development Support	GSA	SITC				2.320	10/05				2.320	
Software Development	GSA	SITC				0.426	10/05				0.426	
Training Development	GSA	SITC				0.086	10/05				0.086	
Integrated Logistics Support	GSA	SITC				0.003	10/05				0.003	
Configuration Management											0.000	
Technical Data											0.000	
GFE											0.000	
Subtotal Support			0.000	0.000		2.835		0.000		0.000	2.835	
Remarks:												

R-1 SHOPPING LIST - Item No. 136

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CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod			PROJECT NUMBER AND NAME 2907 SEA WARRIOR						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	GSA	SITC	7.160			0.779	10/05				0.779	
Operational Test & Evaluation	GSA	SITC				0.432	10/05				0.432	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Subtotal T&E			0.000	0.000		1.211		0.000		0.000	1.211	
Remarks:												
Contractor Engineering Support	GSA	SITC				0.283	10/05				0.283	
Government Engineering Support											0.000	
Program Management Support											0.000	
Travel											0.000	
Subtotal Management			0.000	0.000		0.283		0.000		0.000	0.283	
Remarks:												
Total Cost			0.000	0.000		4.329		0.000		0.000	4.329	
Remarks:												

R-1 SHOPPING LIST - Item No. 136

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE: February 2005								
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5										PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Information Technology Dev/Mod										PROJECT NUMBER AND NAME 2907 SPAWAR IT												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones																																
Prototype Phase (NAFI DataMart)				X	X	X									X	X	X	X	X	X												
System Development				X	X	X	X	X	X	X							X	X	X	X	X	X	X	X								
Equipment Delivery																																
Test & Evaluation																																
Development Test						X	X	X	X	X	X	X									X	X	X	X	X	X	X					
Operational Test						X	X	X	X	X	X	X									X	X	X	X	X	X	X					
Production Milestones																																
Software Delivery/ Implementation										X	X	X	X	X	X	X					X	X	X	X	X	X	X	X				

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 49 of 115)

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 50 of 115)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE: February 2005									
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME													
RDT&E, N / BA-5										0605013N Navy Information Technology Dev/Mod										2907 SEA WARRIOR													
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011				
	1	2	3	4	7.16 1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
Acquisition Milestones																																	
Prototype Phase																																	
System Development (e.g., Radar System dev.)									X	X	X																						
Equipment Delivery (e.g., EDM Radar Delivery)																																	
Software 1XXSW Delivery 2XXSW Delivery												X																					
Test & Evaluation Milestones																																	
Development Test												X																					
Operational Test												X																					
Production Milestones																																	
LRIP I																																	
LRIP II																																	
FRP																																	
Deliveries												X																					

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&BA-5	PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod				PROJECT NUMBER AND NAME 2907 SEA WARRIOR			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Prototype Phase								
System Design Review (SDR)								
Milestone II (MSII)				01/00				
Contract Preparation								
Software Specification Review (SSR)								
Preliminary Design Review (PDR)			Q 1					
System Development			Q 1-3					
Critical Design Review (CDR)			Q 1					
Quality Design and Build								
Test Readiness Review (TRR)								
Developmental Testing (DT-IIA)			Q 4					
Eng Dev Model (EDM) Radar Delivery - Lab								
Software Delivery 1XXSW			Q 4					
Preproduction Readiness Review (PRR)								
EDM Radar Delivery - Flt Related								
Milestone C (MS C)								
Operational Testing (OT-IIA)			Q 4					
Start Low-Rate Initial Production I (LRIP I)								
Software Delivery 2XXSW								
Developmental Testing (DT-IIB1)			Q 4					
Developmental Testing (DT-IIB2)								
Start Low-Rate Initial Production II								
Operational Testing (OT-IIB)			Q 4					
Developmental Testing (DT-IIC)								
Functional Configuration Audit (FCA)			Q 4					
Low-Rate Initial Production I Delivery								
Technical Evaluation (TECHEVAL)								
Physical Configuration Audit			Q 4					
Operational Evaluation (OT-IIC) (OPEVAL)								
Low-Rate Initail Production II Delivery								
IOC								
Full Rate Production (FRP) Decision								
Full Rate Production Start								
First Deployment			Q 4					

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 52 of 115)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development			PROJECT NUMBER AND NAME 3026 - ERP Convergence			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	29.369	7.160	49.354	19.626	0.991	0.381	0.353	0.319
RDT&E Articles Qty								
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Navy Enterprise Resource Planning (ERP) was established to achieve the overarching objectives of the Defense Reform Initiative of 1997, the OUSD (Comptroller) Business Management Modernization Program (BMMP), and the Chief Financial Officer's Act of 1990. In 1998, the Navy's Revolution in Business Affairs (RBA) Commercial Business Practices Working Group established ERP pilots in each of the four major systems commands to investigate the applicability of using a Commercial-Off-The-Shelf (COTS) ERP solution for the Navy's business. Each pilot (SIGMA, SMART, NEMAIS and CABRILLO) used the SAP platform for different functional areas including Acquisition, Financial Management and Logistics.</p> <p>Converging and extending the proven pilot solutions across the Navy enterprise will integrate the existing pilot projects, upgrading the SAP ERP software suite as a single Navy platform that will encompass financial, intermediate-level maintenance, plant supply, wholesale supply, and program management and provide the mechanism for future technology insertion. The Navy ERP solution will provide a coherent and seamless Fleet focus that enables the Navy to standardize business processes using information technology that will result in accurate, timely and efficient services to the Fleet, retirement of stove-piped data systems that are no longer sustainable, acceleration of financial transactions, and improved accountability for financial management.</p> <p>The Navy-wide ERP Program is one of the major components of SEA ENTERPRISE.</p>								

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 53 of 115)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development	PROJECT NUMBER AND NAME 3026 - ERP Convergence																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%; text-align: center;">Development</td> <td style="width: 15%; text-align: center;">FY 04</td> <td style="width: 15%; text-align: center;">FY 05</td> <td style="width: 15%; text-align: center;">FY 06</td> <td style="width: 25%; text-align: center;">12.1613257</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">27.109</td> <td style="text-align: center;">46.019</td> <td style="text-align: center;">36.504</td> <td style="text-align: center;">14.625</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>					Development	FY 04	FY 05	FY 06	12.1613257	Accomplishments/Effort/Subtotal Cost	27.109	46.019	36.504	14.625	RDT&E Articles Quantity				
Development	FY 04	FY 05	FY 06	12.1613257															
Accomplishments/Effort/Subtotal Cost	27.109	46.019	36.504	14.625															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 10px; min-height: 60px;"> ERP Convergence - Continue system development of ERP program functional solutions to support Finance, Program Management, Workforce Management, Travel Management, Intermediate-level Maintenance, Plant and Wholesale Supply, and Stockpoint Development. Fund hardware and software required in support of SAP enterprise system integration and develop technical documentation. </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%; text-align: center;">Test / Quality Assurance</td> <td style="width: 15%; text-align: center;">FY 04</td> <td style="width: 15%; text-align: center;">FY 05</td> <td style="width: 15%; text-align: center;">FY 06</td> <td style="width: 25%; text-align: center;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">1.828</td> <td style="text-align: center;">9.867</td> <td style="text-align: center;">9.045</td> <td style="text-align: center;">5.001</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>					Test / Quality Assurance	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	1.828	9.867	9.045	5.001	RDT&E Articles Quantity				
Test / Quality Assurance	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	1.828	9.867	9.045	5.001															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 10px; min-height: 60px;"> ERP Convergence - Establish and manage QA plans and system quality demonstrations. Begin testing (integration testing, TECHEVAL, OT&E) and resolve deficiencies from testing. </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%; text-align: center;">Information Assurance</td> <td style="width: 15%; text-align: center;">FY 04</td> <td style="width: 15%; text-align: center;">FY 05</td> <td style="width: 15%; text-align: center;">FY 06</td> <td style="width: 25%; text-align: center;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">0.432</td> <td style="text-align: center;">1.655</td> <td style="text-align: center;">3.805</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>					Information Assurance	FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.432	1.655	3.805	0.000	RDT&E Articles Quantity				
Information Assurance	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.432	1.655	3.805	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 10px; min-height: 60px;"> ERP Convergence - Develop and complete all required Information Assurance (IA) documentation for DITSCAP certification. Evaluate and validate the integration and operation of all security features of Navy ERP systems. Funding for IA transitions to O&MN in FY07 for continuing efforts. </div>																			

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EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development	PROJECT NUMBER AND NAME 3026 - ERP Convergence			

C. PROGRAM CHANGE SUMMARY:

Funding:	7.16	FY 04	FY 05	FY 06	FY 07
Previous President's Budget:		0.000	82.945	31.536	10.135
Current BES/President's Budget		29.369	57.541	49.354	19.626
Total Adjustments		29.369	-25.404	17.818	9.491
Summary of Adjustments					
Congressional program reductions			-25.000		
Congressional undistributed reductions			-0.340		
Congressional rescissions					
SBIR/STTR Transfer					
OSD			-0.064	3.499	3.380
Navy (FMB/Sponsor/NAVAIR)				13.958	5.970
Economic Assumptions				0.361	0.141
Reprogrammings		29.369			
Congressional increases					
Subtotal		29.369	-25.404	17.818	9.491

Schedule:

PB05 was the Navy ERP program's first Budget and was developed and submitted prior to the program's Milestone A/B Decision. Since that time, the program has experienced significant structural and schedule changes. Factors that contributed to those changes include:

- A \$25.0M Congressional RDT&E reduction taken in the FY05 Appropriations Bill due to an overly aggressive and potentially unobtainable schedule.
 - In response to this mark, the program adopted a multiple release strategy as a risk reduction measure which allows more time for development of the program's more technically complex functionalities
- The program requested and received an FY04 Congressional Above Threshold Reprogramming for +\$19.8M to begin development of the baseline configuration of the COTS software, any common software such as reports, forms, enhancements and configuration audits, and a master disaster recovery plan for continuing operations. This ATR represented new start approval
- Program received MS A/B approval on 31 August 04 and awarded a letter contract for Systems Integration to Bearing Point in September 04. Contract definitization is on going
- The program received a Below Threshold Reprogramming for +\$10.0M in FY04 to expand near-term business process reengineering efforts
- Funding was added to accelerate and replace STARS-HCM Functionality with the ERP Program (+\$4.7M in FY06 +\$4.7M in FY07)
- Funding was decreased in order to finance a joint Advanced Planning and Scheduling System (APS) Program Support office (-\$1.0M in FY06 -\$0.9M in FY07)

Technical:

Not Applicable.

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development			PROJECT NUMBER AND NAME 3026 - ERP Convergence				

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	<u>22.11</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
8106 Command Support Equipment, OPN	14.950	1.506	10.870	9.142	13.118	17.160	9.533	5.676	Continuing	Continuing

E. ACQUISITION STRATEGY:

The Navy Converged ERP Program plans to award a performance based contract for the design, development, and testing of Global Template 1.0 on a sole source basis. This contract will be for the design, configuration, and testing of all functionality proposed for Global Template 1.0, including documentation of the business processes, configuration of the COTS product to Navy business processes, integration testing and certification, as well as support for an independent third party testing and formal acceptance testing. Core solution software contracts and development/production hardware contracts will be acquired utilizing appropriate Government contract vehicles available at the time needed (GSA, DoD Enterprise licenses, vendor direct contracts, etc.).

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0605013N Information Technology Development			3026 - ERP Convergence						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Development Hardware Prototype	Various	Various	58.807	0.165	03/05	0.245	10/05	0.319	10/06	Continuing	Continuing	
Hardware Support	Various	Various						3.193	12/06	Continuing	Continuing	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			58.807	0.165		0.245		3.512		Continuing	Continuing	
Remarks:												
Software Development	SS	Bearing Pt Annapolis, MD	23.240								23.240	23.240
Software Development	Various	Various	5.167	0.917	05/05						6.084	6.084
System Engineering, Design	TBD	TBD		47.911	05/05	36.204	12/05	11.080	12/06	Continuing	Continuing	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Support			28.407	48.828		36.204		11.080		Continuing	Continuing	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE&E, N / BA-5			0605013N Information Technology Development			3026 - ERP Convergence						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Development Testing and Evaluation	Various	Various	36.754	3.242	05/05	3.790	12/05	5.034	12/06	Continuing	Continuing	
Operational Testing and Evaluation	Various	Various		0.514	05/05	1.155	12/05			Continuing	Continuing	
Quality Assurance	Various	Various	0.141	3.137	05/05	4.138	12/05				7.416	7.416
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			0.718	6.893		9.083		5.034		Continuing	Continuing	
Remarks:												
IA Certification and Accreditation	Various	Various		1.655	03/05	3.821	02/06			0.000	5.476	5.476
											0.000	
Information Assurance	Various	Various	0.042								0.042	
											0.000	
											0.000	
											0.000	
Subtotal Management			0.042	1.655		3.821		0.000		0.000	5.518	
Remarks:												
Total Cost			29.369	57.541		49.353		19.626		Continuing	Continuing	
Remarks:												

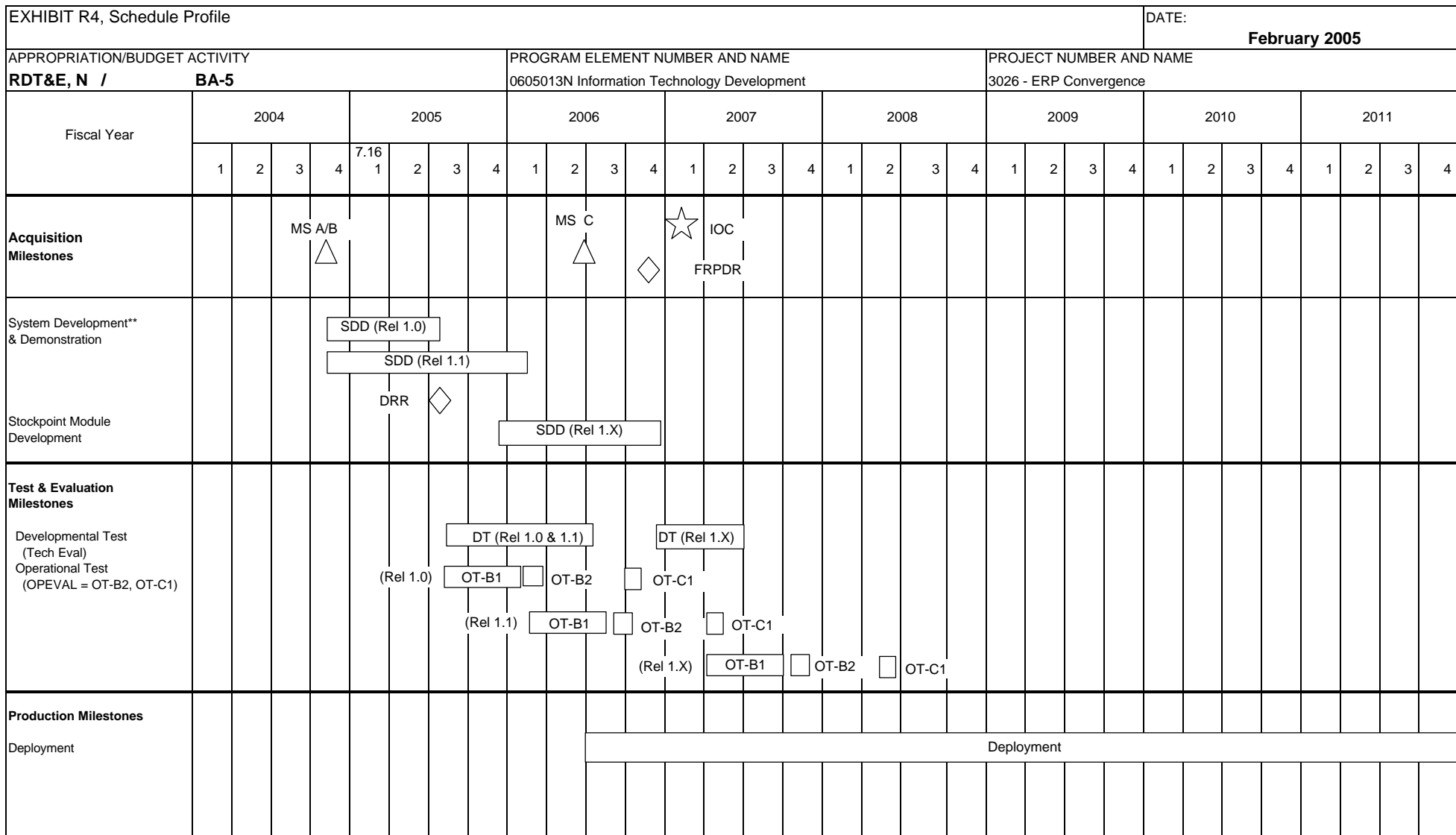
R-1 SHOPPING LIST - Item No. 136

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 58 of 115)

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** Note: Concept and technology development effort conducted by four Pilot Projects (SIGMA, SMART, NEMAIS, CABRILLO) prior to ERP Convergence effort funded.

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 60 of 115)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development			PROJECT NUMBER AND NAME 3038 E-Business				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	6.412	6.793	7.160					
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The R&D funding provided is specifically for the execution of proof of concept type initiatives which are submitted by personnel from across the Department of Navy. This Office is the enabler for the Department of Navy to be in alignment with the President's Management Agenda and effectively meet the transformation challenge. Success in FY01 and FY02 was significant. Mr Mark Forman, OMB's Associate Director for IT and eGovernment, visited this Office in April and found our efforts to be a model for not only DOD but the Federal Government as a whole. Several of the pilots executed in FY01 directly related to the eGovernment strategies OMB is currently focusing on. Those pilot solutions of interest were provided to OMB for potential exportability to Other Federal Agencies. Of particular interest was a solution focused on e authentication, another focused on management of geospatial products. In FY02 the Pilot Management Group executed a DOD/VA Integration project in direct alignment with the President's Management Agenda item #14, addressing seamless sharing of key medical information once personel transition from active duty to retirement. The DOD Deputy CIO was also briefed on the efforts of the Office and will visit this Office on 5 September, a very detailed briefing is planned for the day. It is the intent of the Office to continue the success of FY01 and 02 into FY03 and out providing continued opportunity for effective ebusiness solutions to be developed, deployed and shared across the Department reducing needless duplication and continuing to meet the requirements as set forth in the President's Management Agenda.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development	PROJECT NUMBER AND NAME 3038 E-Business		

B. Accomplishments/Planned Program

	FY 04	FY 05	FY 06	#VALUE!
Accomplishments/Effort/Subtotal Cost	6.412			
RDT&E Articles Quantity				

Executed 18 pilot projects. Pilot project execution consists principally of proof of concept approach. An example of a successful pilot is the Naval Collaborative Engineering Environment, an initiative of ASN (RDA) Chief Engineer Office, will provide an interface between the Naval Force systems architectures repository and the Naval tool for Interoperability Risk Assessment (NTIRA). This effort will enable collaborative capabilities between RDA CHENG and the Commander Fleet Forces Command (CFFC) for information sharing, planning and coordination on suitability of force systems architectures and resolution of known interoperability issues.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		6.793		
RDT&E Articles Quantity				

With an average project costing between \$500K-\$800K the anticipated number of projects is 10-15. Continue the effort of identifying opportunities within DoN to implement new eBusiness solutions and facilitate the integration of these initiatives across the Department.

	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2005																																																																																																	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development	PROJECT NUMBER AND NAME 3038 E-Business																																																																																																			
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EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development			PROJECT NUMBER AND NAME 3038 E-Business				

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>7.16</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
Not Applicable											

E. ACQUISITION STRATEGY:

The milestone for FYs 03-FYs 05 is the proof of concept initiatives for the benefit of the Department of Navy. In fiscal years 02-03 approximately 20 projects will be executed. In the FY 04-05 timeframe the number will decrease commensurate with the 50% reduction in R&D funding.

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Information Technology Dev/Mod				PROJECT NUMBER AND NAME 9088 SPAWAR ITC Enterprise Management			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	7.160	6.436	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Space and Naval Warfare (SPAWAR), Information Technology Center (ITC), New Orleans is the primary Information Technology (IT) support command for all Navy and Naval Reserve Manpower and Personnel functions and for the Program Executive Office for Information Technology (PEO-IT). In this role, the SPAWAR ITC provides effective enterprise-wide integrated information management/information technology (IM/IT) solutions related to system integration, development, testing and evaluation.

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(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	#VALUE!
Accomplishments/Effort/Subtotal Cost	7.113	6.436	0.000	0.000
RDT&E Articles Quantity				
<div style="border: 1px solid black; min-height: 60px; margin-top: 10px;"> FY04 - Developed an enterprise integration and migration solution for manpower and personnel programs. FY05 - Continue to develop an enterprise integration and migration solution for manpower and personnel programs. </div>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				
<div style="border: 1px solid black; min-height: 60px; margin-top: 10px;"></div>				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000
RDT&E Articles Quantity				
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(U) C. PROGRAM CHANGE SUMMARY:

	7.16	FY 2004	FY 2005	FY 2006	FY 2007
(U) Funding:					
FY05 President's Budget:		7.120	0.000	0.000	0.000
FY06 President's Budget		7.113	6.436	0.000	0.000
Total Adjustments		-0.007	6.436	0.000	0.000
Summary of Adjustments					
FY04 Non-Pay Inflation Savings		-0.007			
OSD			-0.002		
Section 8105: Reduce IT Development Cost			-0.004		
Section 8122: Assumed Mgmt Improvements			-0.020		
Section 8131: Non-Statutory Funding Set Aside			-0.038		
SPAWAR Information Technology Center			6.500		
Subtotal		-0.007	6.436	0.000	0.000

(U) Schedule:

Not Applicable.

(U) Technical:

Not Applicable.

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Information Technology Dev/Mod			PROJECT NUMBER AND NAME 9088 SPAWAR ITC Enterprise Management			

(U) D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>7.16</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>

(U) E. ACQUISITION STRATEGY:

GSA contract.

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)	DATE: February 2005
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Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development			24.472								24.472	
Ancillary Hardware Development											0.000	
Systems Engineering											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			24.472	0.000		0.000		0.000		0.000	24.472	

Remarks:

Development Support			17.312	6.436							23.748	
Software Development											0.000	
Training Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
GFE											0.000	
Subtotal Support			17.312	6.436		0.000		0.000		0.000	23.748	

Remarks:

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 69 of 115)

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CLASSIFICATION:												
Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod			PROJECT NUMBER AND NAME 9088 SPAWAR ITC Enterprise Management						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation			7.160								0.000	
Operational Test & Evaluation											0.000	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support											0.000	
Travel											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			17.312	6.436		0.000		0.000		0.000	23.748	0.000
Remarks:												

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Information Technology Dev/Mod			PROJECT NUMBER AND NAME 9089 Distance Learning IT Center			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	7.160	6.734	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

To keep pace with fast moving changes in the Navy's technology, education and training must be available at more than the traditional classroom setting. This effort enhances current distance learning technology by developing a more realistic setting for education and training. Most distance learning is a one-way stream confined by bandwidth and cost. This R&D effort will bring to the Navy a secure, cost-effective technology for the more realistic "give and take" experiences in the classroom.

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Information Technology Dev/Mod			PROJECT NUMBER AND NAME 9089 Distance Learning IT Center			

(U) D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>7.16</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>

(U) E. ACQUISITION STRATEGY:

GSA contract.

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5				PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod			PROJECT NUMBER AND NAME 9089 Distance Learning IT Center					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development			7.693	0.711	01/05						8.404	0.000
Ancillary Hardware Development											0.000	0.000
Systems Engineering			0.447	0.233	01/05						0.680	0.000
Licenses											0.000	0.000
Tooling											0.000	0.000
GFE											0.000	0.000
Award Fees											0.000	0.000
Subtotal Product Development			8.140	0.944		0.000		0.000		0.000	9.084	0.000
Remarks:												
Development Support											0.000	0.000
Software Development			10.305	5.384	01/05						15.689	0.000
Training Development											0.000	0.000
Integrated Logistics Support											0.000	0.000
Configuration Management			0.086	0.044	01/05						0.130	0.000
Technical Data											0.000	0.000
GFE											0.000	0.000
Subtotal Support			10.391	5.428		0.000		0.000		0.000	15.819	0.000
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod			PROJECT NUMBER AND NAME 9089 Distance Learning IT Center						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation			7.583	0.081	01/05						0.238	0.000
Operational Test & Evaluation											0.000	0.000
Live Fire Test & Evaluation											0.000	0.000
Test Assets											0.000	0.000
Tooling											0.000	0.000
GFE											0.000	0.000
Subtotal T&E			0.157	0.081		0.000		0.000		0.000	0.238	0.000
Remarks:												
Contractor Engineering Support											0.000	0.000
Government Engineering Support											0.000	0.000
Program Management Support			0.273	0.142	01/05						0.415	0.000
Travel			0.266	0.139	01/05						0.405	0.000
Subtotal Management			0.539	0.281		0.000		0.000		0.000	0.820	0.000
Remarks:												
Total Cost			12.894	6.734		0.000		0.000		0.000	19.628	0.000
Remarks:												

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 76 of 115)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Information Technology Dev/Mod				PROJECT NUMBER AND NAME 9253 WEB Centric Network Warfare				
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
Project Cost		7.160	4.257	0.000	0.000	0.000	0.000	0.000	0.000	
RDT&E Articles Qty										
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:.</p> <p>Congress appropriated funds to provide continued development of Web Centric ASW Net (WECAN). WECAN is a web based software tool for Undersea Warfare/Anit-Submarine Warfare (USW/ASW) collaborative planning and execution based upon Commercial Off The Shelf (COTS) technologies and products that allow users to discuss immediate and tactical operational concerns such as vulnerability analysis, battle group coordination, and threat discussions.</p>										

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Information Technology Dev/Mod	PROJECT NUMBER AND NAME 9253 WEB Centric Network Warfare		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	7.16
Accomplishments/Effort/Subtotal Cost	5.524	4.257	0.000	0.000
RDT&E Articles Quantity				
<div><p>FY2004 ACCOMPLISHMENTS: CONGRESSIONAL PLUS-UP – Expanded capabilities of WEB Centric ASW Network (WECAN) collaborative planning functionality to include other multi-mission warfare areas. Provided WECAN functionality to new ASW platforms. Funding provided continued program support and the migration of existing capabilities to the Navy Common Collaborative Tool Set and integration with other warfare areas and domains.</p><p>FY2005 PLANS: CONGRESSIONAL PLUS-UP - Funding will provide continued program support and migration of existing capabilities to the Navy Common Collaborative Tool Set, integration with other warfare areas and domains, T&E Functional Test Support to include Security Certification and Accreditation and End to End Compatibility Testing Support. Universal Chat Client (UCC) for Internet Chat Relay (IRC), extend UCC to Extensible Messaging and Presence Protocol (XMPP) and expose portions of WeCAN as set of services using Distributed Channel Services. Continued integration of WeCAN with Joint Command and Control (JC2) migration to Service Oriented Architecture and WeCAN core enhancements.</p></div>				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																																					
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<p>(U) C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;"></th> <th style="text-align: right; width: 10%;">7.16</th> <th style="text-align: right; width: 10%;">FY 2004</th> <th style="text-align: right; width: 10%;">FY 2005</th> <th style="text-align: right; width: 10%;">FY 2006</th> <th style="text-align: right; width: 10%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>(U) Funding:</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY05 PB Submit:</td> <td></td> <td style="text-align: right;">5.537</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>FY06 PB Submit:</td> <td></td> <td style="text-align: right;">5.524</td> <td style="text-align: right;">4.257</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>Total Adjustments</td> <td></td> <td style="text-align: right; border-top: 1px solid black;">-0.013</td> <td style="text-align: right; border-top: 1px solid black;">4.257</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> </tr> <tr> <td colspan="6" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td>FY04 Non-Pay Inflation Savings</td> <td></td> <td style="text-align: right;">-0.005</td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY04 SBIR Assessment</td> <td></td> <td style="text-align: right;">-0.008</td> <td></td> <td></td> <td></td> </tr> <tr> <td>OSD</td> <td></td> <td></td> <td style="text-align: right;">-0.001</td> <td></td> <td></td> </tr> <tr> <td>Section 8105: Reduce IT Development Costs</td> <td></td> <td></td> <td style="text-align: right;">-0.004</td> <td></td> <td></td> </tr> <tr> <td>Section 8122: Assumed Management Improvements</td> <td></td> <td></td> <td style="text-align: right;">-0.013</td> <td></td> <td></td> </tr> <tr> <td>Section 8131: Non-Statutory Funding Set Aside</td> <td></td> <td></td> <td style="text-align: right;">-0.025</td> <td></td> <td></td> </tr> <tr> <td>WECAN</td> <td></td> <td></td> <td style="text-align: right;">4.300</td> <td></td> <td></td> </tr> <tr> <td>Subtotal</td> <td></td> <td style="text-align: right; border-top: 1px solid black;">-0.013</td> <td style="text-align: right; border-top: 1px solid black;">4.257</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> </tr> </tbody> </table> <p style="margin-top: 20px;">(U) Schedule: Not Applicable.</p> <p style="margin-top: 20px;">(U) Technical: Not Applicable.</p>						7.16	FY 2004	FY 2005	FY 2006	FY 2007	(U) Funding:						FY05 PB Submit:		5.537	0.000	0.000	0.000	FY06 PB Submit:		5.524	4.257	0.000	0.000	Total Adjustments		-0.013	4.257	0.000	0.000	Summary of Adjustments						FY04 Non-Pay Inflation Savings		-0.005				FY04 SBIR Assessment		-0.008				OSD			-0.001			Section 8105: Reduce IT Development Costs			-0.004			Section 8122: Assumed Management Improvements			-0.013			Section 8131: Non-Statutory Funding Set Aside			-0.025			WECAN			4.300			Subtotal		-0.013	4.257	0.000	0.000
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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5				PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod			PROJECT NUMBER AND NAME 9253 WEB Centric Network Warfare					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development			7.160								7.160	
Ancillary Hardware Development											0.000	
Systems Engineering											0.000	
Licenses	WX	SSC SD	0.085	0.040	VARIOUS						0.125	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			7.245	0.040		0.000		0.000		0.000	7.285	
Remarks:												
Development Support											0.000	
Software Development	WX	SSC SD	2.390	1.710	VARIOUS						4.100	
Training Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
GFE											0.000	
Subtotal Support			2.390	1.710		0.000		0.000		0.000	4.100	
Remarks:												

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0605013N Navy Information Technology Dev/Mod				PROJECT NUMBER AND NAME 9253 WEB Centric Network Warfare						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Developmental Test & Evaluation	WX	SSC SD	9.642	0.500	VARIOUS						1.339		
Operational Test & Evaluation											0.000		
Live Fire Test & Evaluation											0.000		
Test Assets											0.000		
Tooling											0.000		
GFE											0.000		
Subtotal T&E			0.839	0.500		0.000		0.000		0.000	1.339		
Remarks:													
Contractor Engineering Support		NGMS	0.375	0.375	VARIOUS						0.750		
Government Engineering Support	WX	SSC SD	1.643	1.464	VARIOUS						3.107		
Program Management Support	WX	SSC SD	0.192	0.168	VARIOUS						0.360		
Travel											0.000		
Subtotal Management			2.210	2.007		0.000		0.000		0.000	4.217		
Remarks:													
Total Cost			5.524	4.257		0.000		0.000		0.000	9.781	0.000	
Remarks:													

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 81 of 115)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Information Technology Dev/Mod			PROJECT NUMBER AND NAME 9254 Horizontal Integrated Data Environment (HIDE)			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	7.160	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: HIDE will play a significant role in achieving high efficiency of all stages of system support and installation fielding. Process automation will be achieved by leveraging HIDE technologies.								

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Information Technology Dev/Mod	PROJECT NUMBER AND NAME 9254 Horizontal Integrated Data Environment (HIDE)																	
(U) B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 30%;">#VALUE!</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.960</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	#VALUE!	Accomplishments/Effort/Subtotal Cost	0.960	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	#VALUE!															
Accomplishments/Effort/Subtotal Cost	0.960	0.000	0.000	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px; min-height: 60px;">FY2004 Accomplishments: Migrated prototype to full production expert system, deployed web-enabled secure access, added engineering design features based on user feedback, incorporated drawing storage repository.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 30%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	0.000	RDT&E Articles Quantity				
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RDT&E Articles Quantity																			
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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																													
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N NAVY INFO TECH DEV/MOD				PROJECT NUMBER AND NAME 9259 Condition Based Maintenance Enabling Tech			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	2.878	7.160	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This is a new start. These funds have been provided to accelerate the Navy Distance Support (DS) Program's implementation of the DoD CBM Plus directive (ASN (RD&A) Memorandum "Condition Based Maintenance Plus Policy" on 27 January 2003) and the concurrent achievement of Sea Power 21 logistics and maintenance metrics in support of Fleet readiness and rapid constitution for Naval missions. This includes funding for the annual assessment of logistics and maintenance Information Technology (IT), the annual preparation and revision of the DS CBM+ Technology Roadmap, as well as, modifications and enhancements to ship and shore logistic and maintenance information systems and infrastructures. This funding supports modification to existing software, hardware changes, contractual program management and Navy organic technical support to modify/enhance the NAVSEA HQ and Naval Surface Warfare Center systems and infrastructure. The will require the development, analysis and testing of IT prototypes at contractor facilities, Land Based Test Facilities at NSWCCD Philadelphia and NSWC Crane, and aboard Navy ships. Also supported is software development and upgrades for IT systems and infrastructure, to include COTS software packages/systems; developmental testing and initial operational test, evaluation and certification required prior to system acceptance/approval.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N NAVY INFO TECH DEV/MOD	PROJECT NUMBER AND NAME 9259 Condition Based Maintenance Enabling Tech																
B. Accomplishments/Planned Program <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 25%;"></td> <td style="width: 12.5%; text-align: center;">FY 04</td> <td style="width: 12.5%; text-align: center;">FY 05</td> <td style="width: 12.5%; text-align: center;">FY 06</td> <td style="width: 12.5%; text-align: center;">7.16</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">2.878</td> <td style="text-align: center;">2.971</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px; min-height: 300px;"> <p>(U) PROGRAM ACCOMPLISHMENTS AND PLANS:</p> <p>1. FY 2004 PLAN</p> <p>(U) \$0.100 Completion of Technology Assessment and Roadmap</p> <p>(U) \$0.500 Technical Document Knowledge Management (TDKM) enhancements</p> <p>(U) \$1.500 Distance Support Ver2.0 enhancements</p> <p>(U) \$0.392 Shore systems maintenance mgmt systems enhancements</p> <p>(U) \$0.286 Various Software certification in support of Trident Warrior Exercises</p> <p>(U) \$0.100 Software Development Upgrades</p> <p>2. FY2005 PLANS:</p> <p>(U) \$0.100 Annual revision of Technology Assessment and Roadmap</p> <p>(U) \$0.500 Technical Document Knowledge Management (TDKM) enhancements</p> <p>(U) \$1.500 Distance Support Ver2.0 enhancements</p> <p>(U) \$0.371 Shore systems maintenance mgmt systems enhancements</p> <p>(U) \$0.400 Software Development Upgrades</p> <p>(U) \$0.100 COTS Software Licenses</p> </div>					FY 04	FY 05	FY 06	7.16	Accomplishments/Effort/Subtotal Cost	2.878	2.971	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	7.16														
Accomplishments/Effort/Subtotal Cost	2.878	2.971	0.000	0.000														
RDT&E Articles Quantity																		

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N NAVY INFO TECH DEV/MOD	PROJECT NUMBER AND NAME 9259 Condition Based Maintenance Enabling Tech		

C. PROGRAM CHANGE SUMMARY:

Funding:	7.16	FY 2004	FY 2005	FY 2006	FY 2007
Previous President's Budget: (FY 05 Pres Controls)		2.967	3.000	0.000	0.000
Current BES/President's Budget (FY06/07 Pres Controls)		2.878	2.971	0.000	0.000
Total Adjustments		-0.089	-0.029	0.000	0.000
Summary of Adjustments					
FY04 SBIR		-0.081			
Execution Realignment		-0.003			
Cancelled Account		-0.005			
Section 8105			-0.002		
Section 8122			-0.009		
Section 8131			-0.017		
OSD			-0.001		
Adjustments Subtotal		-0.089	-0.029	0.000	0.000
Schedule:					
Not Applicable					
Technical:					
Not Applicable					

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME					
RDT&E, N / BA-5			0605013N NAVY INFO TECH DEV/MOD				9259 Condition Based Maintenance Enabling Tech					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development			10.400								10.400	
Ancillary Hardware Development	C/FP	Various	0.350	0.400	Var	0.000	Var	0.000	Var	0.800	1.550	
Component Development											0.000	
Ship Integration	C/FP	Various	0.050	0.340	Var	0.000	Var	0.000	Var	0.680	1.070	
Ship Suitability											0.000	
Systems Engineering											0.000	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			10.800	0.740		0.000		0.000		1.480	13.020	
Remarks: "Various" is being used in the Performing Activity & Location, because of numerous project initiations and implementations.												
Development Support	C/FP	Various	0.919	0.600	Var	0.000	Var	0.000	Var	1.281	2.800	
Software Development	C/FP	Various	1.402	0.971	Var	0.000	Var	0.000	Var	2.000	4.373	
Training Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			2.321	1.571		0.000		0.000		3.281	7.173	
Remarks: "Various" is being used in the Performing Activity & Location, because of numerous project initiations and implementations.												

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Exhibit R-3 Cost Analysis (page 2)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0605013N NAVY INFO TECH DEV/MOD				PROJECT NUMBER AND NAME 9259 Condition Based Maintenance Enabling Tech					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	C/FP	Various	11.224	0.200	Var	0.000	Var	0.000	Var	0.400	0.900	
Operational Test & Evaluation	C/FP	Various	0.067	0.200	Var	0.000	Var	0.000	Var	0.400	0.667	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.367	0.400		0.000		0.000		0.800	1.567	
Remarks: "Various" is being used in the Performing Activity & Location, because of numerous project initiations and implementations.												
Contractor Engineering Support	C/FP	ManTech WV	0.250	0.160	Var	0.000	Var	0.000	Var	0.320	0.730	
Government Engineering Support	C/FP	NSWCCD & NSW CRANE	0.113	0.100	Var	0.000	Var	0.000	Var	0.200	0.413	
Program Management Support											0.000	
Travel											0.000	
Labor (Research Personnel)											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.363	0.260		0.000		0.000		0.520	1.143	
Remarks:												
Total Cost			3.451	2.971		0.000		0.000		6.081	12.503	
Remarks:												

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EXHIBIT R4, Schedule Profile																								DATE:											
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-5												0605013N NAVY INFO TECH DEV/MOD												9259 Condition Based Maintenance Enabling Tech											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011						
	1	2	3	4	7.16 1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
Acquisition Milestones																																			
Contract Awards		*			*																														
Technology Assessments		*			*																														
Technology Roadmap Releases			*			*																													
Hardware Development Spirals				*			*																												
Software Development Spirals				*			*																												
T&E and Technology Demos					*			*																											
Test & Evaluation Milestones																																			
Production Milestones																																			
Deliveries																																			

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* Not required for Budget Activities 1, 2, 3, and 6

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 90 of 115)

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CLASSIFICATION:

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 91 of 115)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-05		PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Information Technology Dev/Mod			PROJECT NUMBER AND NAME 9404 Defense Software Productivity Initiative (DSPI)			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	7.160	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

CONGRESSIONAL PLUS UP - This RDT&E Project is a continuatin of activities of the National Institute for Systems Test and Productivity (NISTP) at the University of South Florida to implement recommendatins of a Desfnse Science Board Task Force focused on improving acquisition of software intensive systems. The goal is to create a research and development environment, in collaboration with industry and government, to evaluate and inprove both systems test, productivity tools and techniques to provide meaningful expert support to Navy systems development projects. Section 804 of the Defense Authorizatin Act of 2003 calls for software best practices to be sought, identified, collected, cataloged and ultimately applied across the armed services. NISTP is working to provide revamped contract incentives for more reliable and predictable software.

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Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 93 of 115)

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EXHIBIT R-2a, RDT&E Project Justification				DATE: February 2005																																																																																															
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<p>(U) C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;"></td> <td style="width: 10%; text-align: right;">7.16</td> <td style="width: 10%; text-align: right;">FY 2004</td> <td style="width: 10%; text-align: right;">FY 2005</td> <td style="width: 10%; text-align: right;">FY 2006</td> <td style="width: 10%; text-align: right;">FY 2007</td> </tr> <tr> <td>(U) Funding:</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Previous President's Budget:</td> <td></td> <td style="text-align: right;">2.550</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>Current BES/President's Budget</td> <td></td> <td style="text-align: right;">2.450</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>Total Adjustments</td> <td></td> <td style="text-align: right; border-top: 1px solid black;">-0.100</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> </tr> <tr> <td colspan="6" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td>Section 8094: Management Improvements</td> <td></td> <td style="text-align: right;">-0.007</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Sec. 8126: Efficiencies/Revised Econ. Assurance</td> <td></td> <td style="text-align: right;">-0.022</td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY04 Non-pay Inflation Savings</td> <td></td> <td style="text-align: right;">-0.002</td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY04 SBIR</td> <td></td> <td style="text-align: right;">-0.069</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="6" style="padding-top: 20px;">Subtotal</td> </tr> <tr> <td></td> <td></td> <td style="text-align: right; border-top: 1px solid black;">-0.100</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> </tr> </table> <p style="margin-top: 20px;">(U) Schedule: Not Applicable</p> <p style="margin-top: 20px;">(U) Technical: Not Applicable</p> <p style="margin-top: 20px;">(U) D. OTHER PROGRAM FUNDING SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;"><u>FY 2004</u></td> <td style="text-align: center;"><u>FY 2005</u></td> <td style="text-align: center;"><u>FY 2006</u></td> <td style="text-align: center;"><u>FY 2007</u></td> <td style="text-align: center;"><u>FY 2008</u></td> <td style="text-align: center;"><u>FY 2009</u></td> <td style="text-align: center;"><u>FY 2010</u></td> <td style="text-align: center;"><u>FY 2011</u></td> <td style="text-align: center;"><u>To Complete</u></td> <td style="text-align: center;"><u>Total Cost</u></td> </tr> <tr> <td>Not Applicable</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table> <p style="margin-top: 20px;">(U) E. ACQUISITION STRATEGY: Not Applicable</p>							7.16	FY 2004	FY 2005	FY 2006	FY 2007	(U) Funding:						Previous President's Budget:		2.550	0.000	0.000	0.000	Current BES/President's Budget		2.450	0.000	0.000	0.000	Total Adjustments		-0.100	0.000	0.000	0.000	Summary of Adjustments						Section 8094: Management Improvements		-0.007				Sec. 8126: Efficiencies/Revised Econ. Assurance		-0.022				FY04 Non-pay Inflation Savings		-0.002				FY04 SBIR		-0.069				Subtotal								-0.100	0.000	0.000	0.000		<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>	Not Applicable										
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development			PROJECT NUMBER AND NAME 9405 Fiber Optic Components for Military Applications			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	1.636	#VALUE!						
RDT&E Articles Qty								
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Research and develop electro optic components and the technology needed for high speed optical communications including support of wavelength division multiplexing (WDM), analog, and digital formats.</p>								

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Exhibit R-2, RD TEN Budget Item Justification
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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																																																	
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development	PROJECT NUMBER AND NAME 9405 Fiber Optic Components for Military Applications																																																																																																		
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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005																									
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development			PROJECT NUMBER AND NAME 9405 Fiber Optic Components for Military Applications																										
<p>D. OTHER PROGRAM FUNDING SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 25%;"><u>Line Item No. & Name</u></th> <th style="text-align: right; width: 10%;"><u>7.16</u></th> <th style="text-align: right; width: 10%;"><u>FY 2005</u></th> <th style="text-align: right; width: 10%;"><u>FY 2006</u></th> <th style="text-align: right; width: 10%;"><u>FY 2007</u></th> <th style="text-align: right; width: 10%;"><u>FY 2008</u></th> <th style="text-align: right; width: 10%;"><u>FY 2009</u></th> <th style="text-align: right; width: 10%;"><u>FY 2010</u></th> <th style="text-align: right; width: 10%;"><u>FY 2011</u></th> <th style="text-align: right; width: 10%;"><u>To Complete</u></th> <th style="text-align: right; width: 10%;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>P-1 # 27, EA-6 Series</td> <td style="text-align: right;">235.839</td> <td style="text-align: right;">115.828</td> <td style="text-align: right;">120.619</td> <td style="text-align: right;">49.152</td> <td style="text-align: right;">22.976</td> <td style="text-align: right;">18.378</td> <td style="text-align: right;">18.85</td> <td style="text-align: right;">19.331</td> <td style="text-align: right;">119.413</td> <td style="text-align: right;">3,072.400</td> </tr> </tbody> </table> <p>E. ACQUISITION STRATEGY:</p> <p>The Fiber Optic interconnect technology development will be put on contract under a delivery order.</p>											<u>Line Item No. & Name</u>	<u>7.16</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>	P-1 # 27, EA-6 Series	235.839	115.828	120.619	49.152	22.976	18.378	18.85	19.331	119.413	3,072.400
<u>Line Item No. & Name</u>	<u>7.16</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>																						
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R-1 SHOPPING LIST - Item No.136

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0605013N			E9405 Fiber Optic Components for Military Applications						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	IDIQ CPFF	EO Center, Penn State	7.160	1.891	03/05						9.051	3.497
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering											0.000	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			7.160	1.891		0.000		0.000		0.000	9.051	
Remarks:												
Development Support											0.000	
Software Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-5			PROGRAM ELEMENT 0605013N			PROJECT NUMBER AND NAME E9405 Fiber Optic Components for Military Applications						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation			8.856								0.000	
Operational Test & Evaluation											0.000	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	WX	NAWCAD PAX RIVER, MD	0.030	0.188							0.218	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.030	0.188		0.000		0.000		0.000	0.218	
Remarks:												
Total Cost			1.636	2.079		0.000		0.000		0.000	3.715	
Remarks:												

R-1 SHOPPING LIST - Item No. 136

UNCLASSIFIED

Exhibit R-2, RDTE&E Budget Item Justification
(Exhibit R-2, page 99 of 115)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0605013N - Navy IT Dev/Mod			PROJECT NUMBER AND NAME 9406 - MAINT DATA WAREHOUSE			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	2.163	7.160						
RDT&E Articles Qty								
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>FY05 funding has been provided through a Congressional Add to support maintenance data warehouse. The development of the Decision Knowledge Programming for Logistics Analysis and Technical Evaluation (DECKPLATE) program is the next generation data warehouse for aircraft maintenance, flight and usage data. It provides a web-based interface to a single source of information currently being stored in multiple NALDA systems. Through the use of analysis, query and reporting tools the user has the capabilities to effectively obtain readiness data in a near real-time environment, as well as, historical data for trend analysis and records reconstruction. DECKPLATE supports the mission of the warfighter who requires a single source of near real-time aviation data in which to base critical readiness decisions. This requires collecting data from authoritative sources into a data warehouse. Because the warfighter only needs to access one database, the time consuming task of collecting various pieces of data from various sources will be reduced and ultimately eliminated. This improves data quality, because it reduces the possibility of two systems providing identical data elements, but slightly different data. Data availability is improved through continuous near real-time feeds from the data sources, giving the warfighter the most current information to base decisions. In addition, this also accomplishes a reduction in legacy systems mandated by OPNAV.</p>								

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N - Navy IT Dev/Mod	PROJECT NUMBER AND NAME 9406 - MAINT DATA WAREHOUSE		
(U) B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	7.16
Accomplishments/Effort/Subtotal Cost	2.163	2.178		
RDT&E Articles Quantity				
Absorb legacy functionality into DECKPLATE, which will lead to retirement of legacy systems. Loading of Flight/Maintenance History into DECKPLATE.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME			
RDT&E, N / BA-5	0605013N - Navy IT Dev/Mod	9406 - MAINT DATA WAREHOUSE			
C. PROGRAM CHANGE SUMMARY:					
Funding:	7.16	FY 04	FY 05	FY 06	FY 07
Previous President's Budget:		2.225	0.000	0.000	0.000
Current BES/President's Budget		2.163	2.178	0.000	0.000
Total Adjustments		-0.062	2.178	0.000	0.000
Summary of Adjustments					
Congressional program reductions		-0.025			
Congressional undistributed reductions			-0.021		
Congressional rescissions					
SBIR/STTR Transfer		-0.060			
OSD			-0.001		
Navy (FMB/Sponsor/NAVAIR)					
Economic Assumptions					
Reprogrammings					
Reprioritization		-0.002			
Congressional increases		2.250	2.200		
Subtotal		2.163	2.178	0.000	0.000
Schedule:					
Not Applicable					
Technical:					
Not Applicable.					

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 103 of 115)

R-1 SHOPPING LIST - Item No. 136

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA - 5		PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development			PROJECT NUMBER AND NAME 9597 Cont of Software Development for Military & Civilian Apps			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		7.160						
RDT&E Articles Qty								
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Continuation of software development for Military and Civilian applications.								

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development	PROJECT NUMBER AND NAME 9597 Cont of Software Development for Military & Civilian Apps		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	7.16
Accomplishments/Effort/Subtotal Cost		2.080		
RDT&E Articles Quantity				
<div>Continuation of software development for Military and Civilian applications.</div>				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Info Tech Dev/Mod	PROJECT NUMBER AND NAME 9597 Cont of Software Development for Military & Civilian Apps			

C. PROGRAM CHANGE SUMMARY:

Funding:	7.16	FY 2004	FY 2005	FY 2006	FY 2007
Previous President's Budget:		0.000	0.000	0.000	0.000
Current BES/President's Budget		0.000	2.080	0.000	0.000
Total Adjustments		0.000	2.080	0.000	0.000
Summary of Adjustments					
Congressional program reductions			-0.019		
Congressional undistributed reductions					
Congressional rescissions					
SBIR/STTR Transfer					
OSD			-0.001		
Navy (FMB/Sponsor/SYSCOM)					
Economic Assumptions					
Reprogrammings					
Congressional Increases			2.100		
Subtotal		0.000	2.080	0.000	0.000

Schedule: Not applicable

Technical: Not applicable

D. OTHER PROGRAM FUNDING SUMMARY: Not applicable

E. ACQUISITION STRATEGY: Not applicable

R-1 SHOPPING LIST - Item No. 136

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0605013N			PROJECT NUMBER AND NAME E9599 Fiber Optic Interconnect Technology			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		#VALUE!						
RDT&E Articles Qty								
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Research and development of low cost, automated connection of fiber optic cables.								

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /	PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development	PROJECT NUMBER AND NAME E9599 Fiber Optic Interconnect Technology																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%; text-align: center;">FY 04</td> <td style="width: 15%; text-align: center;">FY 05</td> <td style="width: 15%; text-align: center;">FY 06</td> <td style="width: 25%; text-align: center;">7.16</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td></td> <td style="text-align: center;">1.532</td> <td></td> <td></td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>Continue development of ultra high speed tunable fliters and components for use in wave division multiplexing systems. Continue development of RF photonics components for high bandwidth phased array radar systems,.</p> </div>						FY 04	FY 05	FY 06	7.16	Accomplishments/Effort/Subtotal Cost		1.532			RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	7.16															
Accomplishments/Effort/Subtotal Cost		1.532																	
RDT&E Articles Quantity																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost		0.152																	
RDT&E Articles Quantity																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost																			
RDT&E Articles Quantity																			

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-??	PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development				PROJECT NUMBER AND NAME E9599 Fiber Optic Interconnect Technology		

C. PROGRAM CHANGE SUMMARY:

Funding:	7.16	FY 04	FY 05	FY 06	FY 07
Previous President's Budget:			0.000		
Current BES/President's Budget			1.684		
Total Adjustments		0.000	1.684	0.000	0.000

Summary of Adjustments

Congressional program reductions					
Congressional undistributed reductions					
Congressional rescissions					
SBIR/STTR Transfer					
OSD					
Navy (FMB/Sponsor/NAVAIR)					
Economic Assumptions					
Reprogrammings					
Congressional increases			1.684		
Subtotal		0.000	1.684	0.000	0.000

Schedule:

Not Applicable.

Technical:

Not Applicable.

D. OTHER PROGRAM FUNDING SUMMARY:

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	To <u>Complete</u>	Total <u>Cost</u>
N/A										

E. ACQUISITION STRATEGY:

Fiber Optic Interconnect contract is a cost plus fixed fee.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA - 5		PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development			PROJECT NUMBER AND NAME 9601 AAUSN IT			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		7.160						
RDT&E Articles Qty								
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>Law Enforcement Information Exchange: NCIS initiated two cornerstone initiatives to expand information sharing between local, state, and federal law enforcement agencies in Department of the Navy (DON) strategic locations. Recognizing that data is the key to detecting and neutralizing potential threats to the DON's strategic assets-principally the Navy's nuclear fleet and related infrastructure-NCIS launched these initiatives, known collectively as the Law Enforcement Information Exchange (LInX), in the Hampton Roads, Virginia and Puget Sound, Washington and Hawaii areas. LInX has the potential to deliver a vast array of previously unavailable law enforcement information to NCIS, along with new tools to exploit it.</p>								

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 110 of 115)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development	PROJECT NUMBER AND NAME 9601 AAUSN IT																	
B. Accomplishments/Planned Program																			
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	FY 04	FY 05	FY 06																
Accomplishments/Effort/Subtotal Cost		4.161																	
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 10px;"><p>Navy Law Enforcement Information Exchange (NLEIE) Law Enforcement Information Exchange: NCIS initiated two cornerstone initiatives to expand information sharing between local, state, and federal law enforcement agencies in Department of the Navy (DON) strategic locations. Recognizing that data is the key to detecting and neutralizing potential threats to the DON's strategic assets-principally the Navy's nuclear fleet and related infrastructure-NCIS launched these initiatives, known collectively as the Law Enforcement Information Exchange (LInX), in the Hampton Roads, Virginia and Puget Sound, Washington and Hawaii areas. LInX has the potential to deliver a vast array of previously unavailable law enforcement information to NCIS, along with new tools to exploit it.</p><p>FY2005 \$4,161K Contractor/Government labor for systems engineering and software development staff for development of CAMS.</p></div>																			

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UNCLASSIFIED

CLASSIFICATION:									
EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0605013N Navy Information Technology Dev/Mod				PROJECT NUMBER AND NAME 9603 Vigilant Network Centric Security Data System			
COST (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		7.160	0.495	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty									
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>CONGRESSIONAL PLUS UP -</p>									

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																																																	
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R-1 SHOPPING LIST - Item No. 136

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605013N Information Technology Development	PROJECT NUMBER AND NAME 9603 Vigilant Network Centric Security Data System		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	7.16
Accomplishments/Effort/Subtotal Cost		0.495		
RDT&E Articles Quantity				

UNCLASSIFIED

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R-1 SHOPPING LIST - Item No. 136

UNCLASSIFIED

CLASSIFICATION:								
EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA 5				R-1 ITEM NOMENCLATURE 0605014N Defense Integrated Military Human Resources System (DIMHRS)				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	74.304	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DIMHRS 63033	74.304	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Quantity of RDT&E Articles								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Defense Military Human Resources System (DIMHRS)(Pers/Pay) will be a single integrated, all Service, all Component military personnel and pay management and information system, supporting the complete military personnel life cycle through the full spectrum of military operations. The core will consist of common functions and appropriate interfaces to support Component/Service-unique functions. Military personnel functions support Active Duty, Retired, and Reserve Component personnel (and their families) throughout their entire military careers. Additionally, these functions support DoD-sponsored personnel during contingency and wartime operations. Individual Service business policies, practices, and processes will be examined and re-engineered, or combined with "best practice" solutions to satisfy DIMHRS (Pers/Pay) core functional requirements. These core functions address the personnel communities' support to: 1) meet the operator's mission requirements across the full spectrum of force mobilization and employment from peacetime to war, and 2) eliminate business policies and practices that create inequities among the Services and complicate processing. These core functions, while macro in nature, will be continuously validated to ensure the Program remains aligned with DoD and Joint warfighting strategies, objectives, and goals.</p> <p>DIMHRS was transferred to Defense Human Resources Activity in FY 05 and out.</p> <p>(U) JUSTIFICATION FOR BUDGET ACTIVITY:</p> <p>This program is funded under SYSTEMS DEVELOPMENT AND DEMONSTRATION because it encompasses development and demonstration of new end-items prior to production approval decision.</p>								

R-1 SHOPPING LIST - Item No. 137

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 5	PROGRAM ELEMENT NUMBER AND NAME 0605014N Defense Integrated Military Human Resources System (DIMHRS)	PROJECT NUMBER AND NAME DIMHRS 3033																	
<p>(U) B. Accomplishments/Planned Program</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> </thead> <tbody> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: right;">74.304</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>. (U) FY 2004ACCOMPLIHMENTS: (73,429) Preliminary Design Review (PDR) accomplished S-RTM completed and integrated in test planning Training Strategy Developmental testing on schedule for completion FY05. Completed Updated Function Point Count (FPC) to monitor requirements growth Total program metrics reporting process in place; reported monthly to DON, OSD & OMB NG test strategy integrated into TEMP. Revalidated Functional Requirements Baseline with NG, JR&IO and JPMO . Result will be an updated system specification and the allocated baseline. Integrated Baseline Review conducted at which the NG cost, schedule and performance baseline was approved; completed integration of all Government & Acquisition activities into baseline contract schedule ; approved by JPM. Spiral 1 Critical Design Reviews (CDR) Build 1 /2(Structure) & (Personnel) CDR Build 3 (Global Transfers) CDR Build 4 (Compensation) CDR Develop PACOM Test Facility Plan Draft the PACOM Testing Plan Design, develop, and begin developmental testing of the initial operating capability (IOC) of the integrated system to be implemented by the Army. Complete and approve the Concept of Operations and related doctrinal and training programs to support the testing and acceptance. Validate and approve DITSCAP compliance.</p> </div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	74.304	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	74.304	0.000	0.000	0.000															
RDT&E Articles Quantity																			

R-1 SHOPPING LIST - Item No. 137

UNCLASSIFIED

Classification:

Exhibit R-5, Termination Liability Funding for Major Defense Acquisition Programs, RDT&E Funding (\$000)							DATE:	
							February 2005	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME		
RDT&E, N / BA-5		0605014N Defense Integrated Military Human Resources System (DIMHRS)				DIMHRS 3033		
Program Title	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY2010	FY2011
Defense Integrated Military Human Resources System (DIMHRS)	4.444M							

R-1 SHOPPING LIST - ITEM No. 137

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					R-1 ITEM NOMENCLATURE 0605172N Multinational Information Sharing (MNIS)			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	0.000	0.000	33.557	30.760	30.830	30.878	31.106	31.262
3147 Multinational Information Sharing (MNIS)	0.000	0.000	33.557	30.760	30.830	30.878	31.106	31.262
Quantity of RDT&E Articles								
<p>(U) The MNIS program supports the critical obligations made by the United States to its Allies at the Multi-National Interoperability Council (MIC) and maintains the capabilities provided by the Combined Enterprise Regional Information Exchange Systems (CENTRIXS), the Globally Reaching Interactive Fully Functional Information Network (GRIFFIN), and the Coalition Federated Battle Laboratories (CFBLNet). In 2004, the Secretary of Defense directed the establishment of the Multinational Information Sharing (MNIS) program. This direction includes the continuation of existing legacy systems supporting the MNIS concepts and includes the development of a transition plan to consolidate the legacy activities to meet the challenges of the dynamic requirements for appropriate information sharing. The Navy was designated Executive Agent beginning in 2006, the funds for DoD-wide consolidation of MNIS activities became the responsibility of the Navy (previously funding for these efforts was in the Defense Wide appropriation). The Program Office (JPO) resides in Defense Information Systems Agency (DISA).</p> <p>(U) The MNIS structure provides oversight, planning and programming of MNIS solutions including the continuation of three key developmental and deployed programs: the Combined Enterprise Regional Information Exchange Systems (CENTRIXS), the Globally Reaching Interactive Fully Functional Information Network (GRIFFIN), and the Coalition Federated Battle Laboratories (CFBLNet). CENTRIX provides Information Sharing and secured, reliable means of communications with participating coalition nations. Funding will provide for sustainment of services and information sharing. GRIFFIN provides regional notes providing net-centric coalition services to SIPRNET users. Procures hardware/software, installation services for guarding technologies, enhancements for Information Assurance/Computer Network Defense Systems, and Services for expanded capabilities and increasing Communities of Interest. GRIFFIN will continue to improve architectural design of the multinational GRIFFIN infrastructure and services to support evolving operational architectures; pilot implementation and testing between national networks and supporting information sharing in a multi-tiered domain environment. CFBL Net provides enhanced measurement, auditing, analysis, and development and test capabilities to support interoperability, multinational and cross-domain initiatives.</p> <p>MNIS will consolidate, sustain and meet operational requirements of these deployed systems and provide support for development of the standard MNIS and multinational community of interest (COI) services and applications. These enhancements will allow for the expansion of capabilities to support existing and new user communities, additional multi-domain capabilities and upgraded security.</p>								

R-1 SHOPPING LIST - Item No.138

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605172N MNIS					PROJECT NUMBER AND NAME 3147 Multinational Information Sharing (MNIS)		
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost			\$33.557	\$30.760	\$30.830	\$30.878	\$31.106	\$31.262
3147 Multinational Information Sharing (MNIS)			\$33.557	\$30.760	\$30.830	\$30.878	\$31.106	\$31.262
Quantity of RDT&E Articles								
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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605172N MNIS	PROJECT NUMBER AND NAME 3147 Multinational Information Sharing (MNIS)																	
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	FY 04	FY 05	FY 06	FY 07															
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R-1 SHOPPING LIST - Item No. 138

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605172N MNIS	PROJECT NUMBER AND NAME 3147 Multinational Information Sharing (MNIS)		

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY2005 President's Budget Submit:	0.000	0.000	0.000	0.000
FY2006 President's Budget Submit:	0.000	0.000	33.557	30.780
Total Adjustments	0.000	0.000	33.557	30.780

Summary of Adjustments				
Programmatic Adjustments			33.557	30.780
Economic Assumptions				
Pricing Adjustments				
Subtotal	0.000	0.000	33.557	30.780

(U) Schedule:

(U) Technical:

(U) D. OTHER PROGRAM FUNDING SUMMARY:

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
N/A								

(U) E. ACQUISITION STRATEGY:

In 2004, the Secretary of Defense directed the establishment of the Multinational Information Sharing (MNIS) program. This direction includes the continuation of existing legacy systems supporting the MNIS concepts and includes the development of a transition plan to consolidate the legacy activities to meet the challenges of the dynamic requirements for appropriate information sharing.

The DoN was designated the Executive Agent for the program beginning in FY2006, and FY2006 and out funding was transferred to the DoN. In FY2006, funding was transferred to the DoN.

In FY2006-2007, the program will begin development of acquisition documentation for the initial phase of the MNIS integration.

(U) F. Major Performers:
TBD

R-1 SHOPPING LIST - Item No. 138

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, BA-5			PROGRAM ELEMENT 0605172N Multinational Information Sharing (MNIS)			PROJECT NUMBER AND NAME 3147 Multinational Information Sharing (MNIS)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
MNIS Products						1.760		1.600				
Hardware						3.300		3.100				
Systems Engineering	C/VAR	Various	0.000	0.000		13.657	VAR	10.660	VAR	Continuing	Continuing	
Subtotal Product Development			0.000	0.000		18.717		15.360		Continuing	Continuing	
Remarks:												
Development Support						4.500		4.500				
Software Development						0.800		0.800				
Integrated Logistics Support						0.640		0.680				
Configuration Management						0.440		0.440				
Technical Data						0.300		0.450				
Studies and Analyses						1.800		1.800				
GFE						0.800		0.400				
Award Fees												
Subtotal Support			0.000	0.000		9.280		9.070		Continuing	Continuing	
Remarks:												
Developmental Test & Eval	VAR	Various	0.000	0.000		0.350		0.350			0.700	
Subtotal T&E			0.000	0.000		0.350		0.350		Continuing	Continuing	
Remarks:												
Program Management Support	VAR	Various	0.000	0.000	Various	3.800	Various	4.300	Various	Continuing	Continuing	Continuing
Contractor Engineering Support						1.410		1.680				
Government Engineering Support												
Subtotal Management			0.000	0.000		5.210		5.980		Continuing	Continuing	
Remarks:												
Total Cost			0.000	0.000		33.557		30.760		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 138

CLASSIFICATION:

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R-1 SHOPPING LIST - Item No.

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 1 of 9)

CLASSIFICATION:

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EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							February 2005	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME			
RDT&E, N / BA-5		0605212N CH-53X RDTE			3059 CH-53X DEVELOPMENT			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	4.781	102.326	271.941	300.069	340.985	351.445	369.744	363.944
RDT&E Articles Qty						1	2	2
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The CH-53 is the only marinized heavy-lift helicopter in the world, and the CH-53E is the Marine Corps only heavy-lift helicopter. An improved CH-53E is needed to support the Marine Air-Ground Task Force heavy-lift requirements in the 21st century joint environment. The CH-53E mission is the conduct of expeditionary heavy-lift assault transport of armored vehicles, equipment and personnel to support distributed operations deep inland from a sea-based center of operations. The CH-53E "Super Stallion" was introduced into operations in 1980 as an upgrade version of the CH-53D. The CH-53E has developed performance degradation, fatigue life, interoperability, maintenance supportability, and other operational concerns. The CH-53X, an upgraded variant of the CH-53E, will provide improvements in range and payload performance, cargo handling and turn-around times, reliability and maintainability, interoperability, and survivability. The CH-53X program is required to provide full system capability, including shipboard compatibilities, at Initial Operational Capability (IOC), in Fiscal Year (FY) 2015. The CH-53X will replace the CH-53E, with Full Operational Capability (FOC) achieved by FY 2021.</p> <p>FY04-FY05 RDT&E efforts have focused on trade studies for the CH-53X. FY05-FY07 RDT&E efforts focus on CH-53X System Development and Demonstration (SDD) activities that accomplish a successful FY06 Preliminary Design Review and promote a successful FY08 Critical Design Review.</p> <p>*FY 2004 and FY 2005 Project Costs are from Program Element 0604212N.</p>								

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 2 of 9)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605212N CH-53X RDTE	PROJECT NUMBER AND NAME 3059 CH-53X DEVELOPMENT																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;"></td><td style="width: 15%; text-align: center;">FY 04</td><td style="width: 15%; text-align: center;">FY 05</td><td style="width: 15%; text-align: center;">FY 06</td><td style="width: 15%; text-align: center;">FY 07</td></tr><tr><td>Air Vehicle Development</td><td style="text-align: center;">0.000</td><td style="text-align: center;">84.335</td><td style="text-align: center;">226.222</td><td style="text-align: center;">247.250</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table>						FY 04	FY 05	FY 06	FY 07	Air Vehicle Development	0.000	84.335	226.222	247.250	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Air Vehicle Development	0.000	84.335	226.222	247.250															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; min-height: 60px; margin-top: 10px;"></div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;"></td><td style="width: 15%; text-align: center;">FY 04</td><td style="width: 15%; text-align: center;">FY 05</td><td style="width: 15%; text-align: center;">FY 06</td><td style="width: 15%; text-align: center;">FY 07</td></tr><tr><td>Systems Engineering and Project Management</td><td style="text-align: center;">2.674</td><td style="text-align: center;">15.425</td><td style="text-align: center;">35.343</td><td style="text-align: center;">40.585</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table>						FY 04	FY 05	FY 06	FY 07	Systems Engineering and Project Management	2.674	15.425	35.343	40.585	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Systems Engineering and Project Management	2.674	15.425	35.343	40.585															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; min-height: 60px; margin-top: 10px;"></div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;"></td><td style="width: 15%; text-align: center;">FY 04</td><td style="width: 15%; text-align: center;">FY 05</td><td style="width: 15%; text-align: center;">FY 06</td><td style="width: 15%; text-align: center;">FY 07</td></tr><tr><td>Integrated Logistics Support</td><td style="text-align: center;">2.107</td><td style="text-align: center;">2.566</td><td style="text-align: center;">10.376</td><td style="text-align: center;">12.234</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table>						FY 04	FY 05	FY 06	FY 07	Integrated Logistics Support	2.107	2.566	10.376	12.234	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Integrated Logistics Support	2.107	2.566	10.376	12.234															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; min-height: 60px; margin-top: 10px;"></div>																			

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605212N CH-53X RDTE	PROJECT NUMBER AND NAME 3059 CH-53X DEVELOPMENT		

C. PROGRAM CHANGE SUMMARY:

	FY 2004	FY 2005	FY 2006	FY 2007
Funding:				
Previous President's Budget:	4.798	103.267	296.719	331.863
Current BES/President's Budget	4.781	102.326	271.941	300.069
Total Adjustments	-0.017	-0.941	-24.778	-31.794
Summary of Adjustments				
Congressional program reductions				
Congressional undistributed reductions		-0.920		
Congressional rescissions				
SBIR/STTR Transfer	-0.109			
Other Adjustments		-0.021	-27.565	-36.509
Economic Assumptions			2.787	4.715
Reprogrammings	0.092			
Congressional increases				
Subtotal	-0.017	-0.941	-24.778	-31.794

Schedule:

Schedule has matured as CH-53X Engineering Trade Studies have been completed and requirements have been defined. While MS B remains scheduled for 4QFY05, MS C has moved to FY12 from FY08, with corresponding adjustments to key events between MS B and MS C.

Technical:

Not Applicable

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT NUMBER AND NAME 0605212N CH-53X RDTE			PROJECT NUMBER AND NAME 3059 CH-53X DEVELOPMENT				

D. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
P-1 Procurement Line: BLI 015800/CH-53E SLEP									TBD	TBD

E. ACQUISITION STRATEGY:

This acquisition is intended to satisfy the United States Marine Corps (USMC) CH-53X Heavy-Lift Helicopter (CH-53X) Operational Requirements Document (ORD), number AAS 34.6. The Marine Corps Requirements Oversight Council (MROC) concurred with the CH-53X ORD, per MROC Decision Memorandum 05-2004 dated 17 November 2003. This ORD was submitted on 10 December 2003 for Joint Requirements Oversight Council review and approval, under Knowledge Management / Decision Support System control number 03-50090314-00. The Analysis of Alternatives was completed on 11 September 2003, and recommended a new-build approach for update of the CH-53E to the CH-53X configuration.

The CH-53X Heavy Lift Helicopter program is a pre-Major Defense Acquisition Program (program number 390). The CH-53X program will be initiated as an Acquisition Category (ACAT) I program, based on total estimated costs for both Research, Development, Test and Evaluation (RDT&E), and Aircraft Procurement, Navy (APN). Entry into the acquisition process at Milestone (MS) B is planned for the fourth quarter of Fiscal Year (FY) 2005. Approval of MS B will mark initiation of the System Development and Demonstration (SDD) phase of the CH-53X program. The CH-53X program will use a single-step acquisition approach to meet an Initial Operational Capability (IOC) of FY 2015.

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0605212N CH-53X RDTE			3059 CH-53X DEVELOPMENT						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	TBD	Sikorsky		84.335	12/04	87.900	Various	127.318	Various	1,712.500	2,012.053	2,012.053
Software Development	TBD	MITRE				96.000	Various	97.700	Various	49.700	243.400	243.400
Training Development											0.000	
Aircraft Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	TBD	Contractors TBD	2.085								2.085	2.085
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			2.085	84.335		183.900		225.018		1,762.200	2,257.538	
Remarks: Primary Hardware Development contracts not yet negotiated. Target Value of Contracts will be available after contracts are awarded.												
Development Support											0.000	
Software Development											0.000	
Integrated Logistics Support	Various	NAWCAD Pax River, MD	0.665	1.605	11/04	7.634	Various	8.534	Various	263.900	282.338	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses	Various	Contractors TBD	3.572	0.285	12/04						3.857	3.857
GFE											0.000	
Other	Various	Contractors TBD				42.322	Various	22.232	Various	243.500	308.054	308.054
Subtotal Support			4.237	1.890		49.956		30.766		507.400	594.249	
Remarks:												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 6 of 9)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-5				PROGRAM ELEMENT 0605212N CH-53X RDTE			PROJECT NUMBER AND NAME 3059 CH-53X DEVELOPMENT					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	NAWCAD Pax River, MD		0.163	11/04	2.742	Various	3.700	Various	265.800	272.405	
Operational Test & Evaluation	Various	OPTEVFOR (HMX)		0.163	11/04						0.163	
Live Fire Test & Evaluation	Various	NAWCWD China Lake, CA & AIR FORCE		0.350							0.350	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.676		2.742		3.700		265.800	272.918	
Remarks:												
Contractor Engineering Support	Various	NAWCAD Pax River, MD	0.530								0.530	
Government Engineering Support	Various	NAWCAD Pax River, MD	1.833	12.425	11/04	28.210	Various	33.318	Various	216.872	292.658	
Program Management Support	Various	NAWCAD Pax River, MD	0.805	2.875	11/04	6.778	Various	6.870	Various	45.880	63.208	
Travel	Various	NAWCAD Pax River, MD	0.030	0.125	11/04	0.355	Various	0.397	Various	5.589	6.496	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			3.198	15.425		35.343		40.585		268.341	362.892	
Remarks:												
Total Cost			9.520	102.326		271.941		300.069		2,803.741	3,487.597	
Remarks: Total Cos includes both PE 0604212N and 0605212N.												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 7 of 9)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:												
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME												
RDT&E, N / BA-5												0605212N CH-53X RDTE												3059 CH-53X DEVELOPMENT												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4								
Acquisition Milestones	ORD Update								MS B																								DRR			
	Acquisition Documentation								System Development & Demonstration																											
	Trade Studies & Analysis																																			
Contract Milestones								SDD KA																												
Engineering Milestones				SRR			SFR			PDR							CDR									FRR		PRR								
Logistics Milestones				ILA																																
Test & Evaluation Milestones					TEMP																															
					ALFT&E Plan																															
								LFT&E																												
Production Milestones																																				
Aircraft Quantities																																				
Aircraft Deliveries																																				

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* Not required for Budget Activities 1, 2, 3, and 6

**Schedule Profile for both PE 0604212N and PE 0605212N

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&BA-5	0604212N ASW & OTHER HELO DEVELOPMENT				3059 CH-53X DEVELOPMENT			
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
ORD Update	1Q-3Q							
Trade Studies & Analysis	1Q-4Q	1Q-4Q						
Acquisition Documentation	1Q-4Q	1Q						
System Requirements Review (SRR)	4Q							
Test and Evaluation Master Plan (TEMP)	4Q							
Alternative Live Fire T&E (ALFT&E) Plan	4Q							
Independent Logistics Assessment (ILA)	4Q							
Milestone (MS) B		4Q						
System Development and Demonstration (SDD) phase		4Q	1Q-4Q	1Q-4Q				
SDD Contract Award (KA)		4Q						
System Functional Review (SFR)		4Q						
Preliminary Design Review (PDR)			3Q					
Critical Design Review (CDR)								
Test Readiness Review (TRR)								
Flight Readiness Review (FRR)								
Contractor Test / Developmental Test (CT/DT)								
First Flight								
Production Readiness Review (PRR)								
Design Readiness Review (DRR)								
* Performance Measurement Baseline								

**Schedule Detail for both PE 0604212N and PE 0605212N

R-1 SHOPPING LIST - Item No. 139

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 9 of 9)

CLASSIFICATION:

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[illegible]

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Multi-mission Maritime Aircraft (MMA) program provides the replacement system(s) for the aging P-3 aircraft. The MMA program was initiated in response to the JROC validated MNS, "Broad Area Maritime and Littoral Armed Intelligence, Surveillance and Reconnaissance" and the requirements for the program are defined in the MMA Operational Requirements Document (ORD)/ Capability Development Document (CDD), validated and approved by JROC on 08 December 2003. The MMA program received Milestone 0 approval to proceed into Concept Exploration (CE) on 22 March 2000. Concept exploration activities began in June 2000 under Program Element 0702207N / Project Unit W2737. Approval to enter Component Advanced Development (CAD) was attained from the Overarching Integrated Product Team on 18 January 2002 and the Milestone Decision Authority (USD(AT&L)) approved the program Acquisition Strategy on 8 February 2002. Approval to enter System Demonstration and Development (SDD) was attained at the Defense Acquisition Board (DAB) on 28 May 2004. At the DAB approval was granted to award the SDD contract. The contract was awarded to Boeing on 14 June 2004.

The primary objectives of SDD are to: perform the system detailed design, develop and produce Systems Integration Labs, develop and build ground and flight test articles and prepare for Milestone C. Seven flight test aircraft will be built during SDD. These test aircraft will be grouped into two stages based on which phase of the test program the aircraft will support. SDD Stage I flight test aircraft (FY06/Qty-3) will support initial combined Developmental/Operational Testing (DT/OT). SDD Stage II flight test aircraft (FY08/Qty-4) will support the completion of combined DT/OT and Initial Operational Test and Evaluation (IOT&E) after being updated to the production configuration. MMA plans to enter Production and Deployment (PD) in the 3rd quarter of FY10 after completing the Milestone C DAB.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605500N MULTI-MISSION MARITIME AIRCRAFT				PROJECT NUMBER AND NAME 2696 MULTI-MISSION MARITIME AIRCRAFT			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	66.827	490.249	964.067	1,138.465	886.103	1,107.020	1,089.992	745.599
RDT&E Articles Qty			3		4			

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Multi-mission Maritime Aircraft (MMA) program provides the replacement system(s) for the aging P-3 aircraft. The MMA program was initiated in response to the JROC validated MNS, "Broad Area Maritime and Littoral Armed Intelligence, Surveillance and Reconnaissance" and the requirements for the program are defined in the MMA Operational Requirements Document (ORD)/ Capability Development Document (CDD), validated and approved by JROC on 08 December 2003. The MMA program received Milestone 0 approval to proceed into Concept Exploration (CE) on 22 March 2000. Concept exploration activities began in June 2000 under Program Element 0702207N / Project Unit W2737. Approval to enter Component Advanced Development (CAD) was attained from the Overarching Integrated Product Team on 18 January 2002 and the Milestone Decision Authority (USD(AT&L)) approved the program Acquisition Strategy on 8 February 2002. Approval to enter System Demonstration and Development (SDD) was attained at the Defense Acquisition Board (DAB) on 28 May 2004. At the DAB approval was granted to award the SDD contract. The contract was awarded to Boeing on 14 June 2004.

The primary objectives of SDD are to: perform the system detailed design, develop and produce Systems Integration Labs, develop and build ground and flight test articles and prepare for Milestone C. Seven flight test aircraft will be built during SDD. These test aircraft will be grouped into two stages based on which phase of the test program the aircraft will support. SDD Stage I flight test aircraft (FY06/Qty-3) will support initial combined Developmental/Operational Testing (DT/OT). SDD Stage II flight test aircraft (FY08/Qty-4) will support the completion of combined DT/OT and Initial Operational Test and Evaluation (IOT&E) after being updated to the production configuration. MMA plans to enter Production and Deployment (PD) in the 3rd quarter of FY10 after completing the Milestone C DAB.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605500N MULTI-MISSION MARITIME AIRCRAFT	PROJECT NUMBER AND NAME 2696 MULTI-MISSION MARITIME AIRCRAFT		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	6.000	0.000	0.000	0.000
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 5px;"> <p>Component Advanced Development (CAD) contracts initiated in FY02 to evaluate MMA system alternative concepts. Scope of effort includes: Designed MMA alternative concept's weapon system architectures. Technical, logistic, cost, and risk analysis of each proposed MMA alternative concept. Applied Modeling & Simulation tools to validate proposed risk mitigations for each MMA alternative concept. Evaluated system requirements through cost/performance trade-offs analysis. CAD contracts were completed in FY04.</p> </div>				
Accomplishments/Effort/Subtotal Cost	43.727	473.504	939.752	1,108.524
RDT&E Articles Quantity			3	
<div style="border: 1px solid black; padding: 5px;"> <p>Initiate System Development and Demonstration (SDD) phase. Work effort started in FY04 at the completion of the CAD contracts. Scope of effort includes: Design, develop, build, and test MMA aircraft, avionics, mission systems, Systems Integration Lab(s), wind tunnel test models, ground and flight test articles (SDD Stage I, FY06, Qty3; SDD Stage II, FY08, Qty4), other test articles, and integration of UAV Tactical Control System (TCS), modifications to the Tactical Support Center (TSC). Conduct the Integrated Baseline Review (IBR) and prepare for and conduct technical reviews such as the System Functional Review (SFR), Preliminary Design Review (PDR), and Critical Design Review (CDR). Work effort initiated in FY04 and will continue until the end of the SDD contract planned in FY13.</p> </div>				
Accomplishments/Effort/Subtotal Cost	17.100	16.745	24.315	29.941
RDT&E Articles Quantity				
<div style="border: 1px solid black; padding: 5px;"> <p>Test, GFE, Engineering and Technical Development for the CAD and SDD contracts. Effort includes: analysis of contracted deliverables; evaluation of an unmanned aerial vehicle (UAV) in the maritime role (technical and cost analysis), refine UAV system integration requirements, and evaluate UAV concept of operations; direct technical and logistic support of system development and delivery; assessment of contractors readiness to proceed in design/development; evaluate contract cost, schedule, and performance; test preparations, provide necessary government furnished equipment and test articles, and conduct testing; risk assessment/mitigation; program control; performance status; and plan and prepare for future Milestone/Decision Reviews and develop associated documentation. Modeling & Simulation tools will be developed to assess proposed risk mitigations and to support Development Test and Evaluation. Work effort initiated will continue until the end of the SDD contract planned in FY13.</p> </div>				

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Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 3 of 11)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																																																																							
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0605500N MULTI-MISSION MARITIME AIRCRAFT	PROJECT NUMBER AND NAME 2696 MULTI-MISSION MARITIME AIRCRAFT																																																																								
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 35%;">Funding:</th> <th style="text-align: right; width: 15%;">FY 2004</th> <th style="text-align: right; width: 15%;">FY 2005</th> <th style="text-align: right; width: 15%;">FY 2006</th> <th style="text-align: right; width: 15%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>Previous President's Budget:</td> <td style="text-align: right;">71.413</td> <td style="text-align: right;">496.029</td> <td style="text-align: right;">963.041</td> <td style="text-align: right;">932.838</td> </tr> <tr> <td>Current BES/President's Budget</td> <td style="text-align: right;">66.827</td> <td style="text-align: right;">490.249</td> <td style="text-align: right;">964.067</td> <td style="text-align: right;">1,138.465</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-4.586</td> <td style="text-align: right; border-top: 1px solid black;">-5.780</td> <td style="text-align: right; border-top: 1px solid black;">1.026</td> <td style="text-align: right; border-top: 1px solid black;">205.627</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional program reductions</td> <td></td> <td style="text-align: right;">-4.725</td> <td></td> <td></td> </tr> <tr> <td> Congressional undistributed reductions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> SBIR/STTR Transfer</td> <td style="text-align: right;">-1.434</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Other Adjustments</td> <td></td> <td style="text-align: right;">-1.055</td> <td style="text-align: right;">-8.456</td> <td style="text-align: right;">190.972</td> </tr> <tr> <td> Economic Assumptions</td> <td style="text-align: right;">-0.066</td> <td></td> <td style="text-align: right;">9.482</td> <td style="text-align: right;">14.655</td> </tr> <tr> <td> Reprogrammings</td> <td style="text-align: right;">-3.086</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional increases</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">-4.586</td> <td style="text-align: right; border-top: 1px solid black;">-5.780</td> <td style="text-align: right; border-top: 1px solid black;">1.026</td> <td style="text-align: right; border-top: 1px solid black;">205.627</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule:</p> <p>As a result to changes incorporated into the MMA Acquisition Strategy as part of the review process for the Milestone B Defense Acquisition Board, the following changes have been made to the program schedule: Design Readiness Review (DRR) was moved from 3Q/07 to 4Q/07; an Interim Program Review (IPR) was added to the schedule in 3Q/09; Milestone C was changed from 4Q/08 to 3Q/10; System Development and Demonstration (SDD) was extended through 4Q/13; added Ground Test program (includes Developmental and Live Fire Test & Evaluation) 1Q/06 through 4Q/10; LRIP work activities will be initiated in 3Q/10 to align with Milestone C; added SDD Stage II flight test aircraft contract award in 2Q/08, Advance Procurement (AP) for LRIP Lot #1 in 3Q/09, LRIP Lot #1 (& AP for LRIP #2) in 3Q/10, and LRIP Lot #2 (& AP for LRIP #3) in 2Q/11; adjusted the start of the Integrated Developmental and Operational Flight test program to 4Q/09 from 1Q/08; flight test aircraft quantities were moved from FY06 (Qty-1), FY07 (Qty-1), and FY08 (Qty-1) to FY06 (Qty-3) to reflect the year the effort will be initiated; and flight test aircraft (Qty-4) were added to FY08, the year the effort will be initiated.</p> <p style="margin-top: 20px;">Technical:</p> <p>Not Applicable</p>					Funding:	FY 2004	FY 2005	FY 2006	FY 2007	Previous President's Budget:	71.413	496.029	963.041	932.838	Current BES/President's Budget	66.827	490.249	964.067	1,138.465	Total Adjustments	-4.586	-5.780	1.026	205.627	Summary of Adjustments					Congressional program reductions		-4.725			Congressional undistributed reductions					Congressional rescissions					SBIR/STTR Transfer	-1.434				Other Adjustments		-1.055	-8.456	190.972	Economic Assumptions	-0.066		9.482	14.655	Reprogrammings	-3.086				Congressional increases					Subtotal	-4.586	-5.780	1.026	205.627
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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME 0605500N MULTI-MISSION MARITIME AIRCRAFT		PROJECT NUMBER AND NAME 2696 MULTI-MISSION MARITIME AIRCRAFT						
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
APN PE 0204251N BLI 019300 MMA						110.789	1,788.841	2,056.247	19,455.447	23,411.324
APN BLI 060510 Initial Spares - MMA							45.954	74.955	1,262.859	1,383.768
MILCON PE 0805376 - Project P-146 & P-147			5.800	14.090						19.890
E. ACQUISITION STRATEGY:										
<p>The Multi-Mission Maritime Aircraft (MMA) Milestone 0 was approved 22 March 2000 and the resulting Acquisition Decision Memorandum directed MMA to begin the CE phase consisting of an AoA and industry concept studies. These activities began 3Q/01 and were funded under Program Element 0702207N / Project Unit W2737. Approval to enter Component Advanced Development (CAD) was attained from the Overarching Integrated Product Team on 18 Jan 2002 and the Milestone Decision Authority (USD(AT&L)) approved the program Aquisition Strategy on 8 Feb 2002. The CAD was a competitive award to multiple contractors to define alternative MMA concept system architectures and evaluate associated risks and proposed mitigations. Selection of MMA concept and approval to enter System Development and Demonstration (SDD) phase occurred at MS B decision review on 28 May 2004. The contract was awarded to Boeing on 14 June 2004. The SDD phase is being used to design, develop and test the MMA system. The MMA program was initiated in response to the JROC validated MNS, "Broad Area Maritime and Littoral Armed Intelligence, Surveillance and Reconnaissance" and the requirements for the program are defined in the MMA Operational Requirements Document (ORD)/ Capability Development Document (CDD), validated and approved by JROC on 08 December 2003. MMA IOC objective is FY 2013.</p>										

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 6 of 11)

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 7 of 11)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 3)										DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0605500N MULTI-MISSION MARITIME AIRCRAFT			2696 MULTI-MISSION MARITIME AIRCRAFT						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	Various				5.487	01/06	8.133	01/07	140.680	154.300	
Operational Test & Evaluation	WX	Various				0.200	02/06	0.350	02/07	16.100	16.650	
Live Fire Test & Evaluation	WX	Various				5.681	02/06	2.767	02/07	18.467	26.915	
Test Assets	WX	Various				4.902	03/06	1.692	03/07	9.586	16.180	
GFE	PID/RX	Various				2.000	03/06	10.500	03/07	85.200	97.700	97.700
											0.000	
											0.000	
Subtotal T&E			0.000	0.000		18.270		23.442		270.033	311.745	
Remarks:												
Contractor Engineering Support	C/FFP	RBC Inc., VA	5.881	2.300	01/05	2.254	01/06	2.316	01/07	21.056	33.807	33.807
Government Engineering Support	WX	NAWCAD, Pax River, MD	8.680								8.680	
Program Management Support	WX	NAWCAD, Pax River, MD	6.122	0.991	01/05	1.051	01/06	1.225	01/07	9.050	18.439	
Travel	WX	NAWCAD, Pax River, MD	0.480	0.180	11/04	0.261	11/05	0.295	11/06	1.850	3.066	
											0.000	
											0.000	
Subtotal Management			21.163	3.471		3.566		3.836		31.956	63.992	
Remarks:												
Total Cost			169.418	490.249		964.067		1,138.465		4,213.301	6,975.500	
Remarks:												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 8 of 11)

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EXHIBIT R4, Schedule Profile																										DATE: February 2005						
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5										PROGRAM ELEMENT NUMBER AND NAME 0605500N MULTI-MISSION MARITIME AIRCRAFT										PROJECT NUMBER AND NAME 2696 MULTI-MISSION MARITIME AIRCRAFT												
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones			MS B ▲												DRR △						IPR △				MS C △							
Acquisition Phases	CAD			System Development and Demonstration																												
MMA System									PDR △					CDR △																		
Contract Awards			SDD (Includes Stage I) ▲													SDD Stage II aircraft △																
RDT&E, N																					AP for LRIP #1 △				LRIP #1 & AP LRIP #2 △			LRIP #2 & AP LRIP #3 △				
Production																																
Test & Evaluation Milestones									Ground Testing										DT/OT Flight Testing													
Ground Testing																																
Flight Test Program																																
Production																												LRIP				
Deliveries																																
SDD Test Aircraft																																

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 10 of 11)

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Termination Liability Funding
For Major Defense Acquisition Programs,
RDT&E Funding
(\$000)

Program	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
	0	0	0	0	0	0	0	0

This program does not budget/fund termination liability separately. A Limitation of Funds (LoF) clause (FAR 52.232-22) is inserted in all incrementally funded R&D contracts. This clause is designed to limit the government's legal liability to the amount obligated.